Safety Maintenance and Production

EST. 1901 AMERICA'S PIONEER MAGAZINE IN ITS FIELD

FIFTY CENTS JUNE, 1954

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AO COVERGLAS GOGGLES
Fit Over Safety And Personal Glasses

NEW
Safety Goggles

#326

#327

NEW – 4 WAYS!

1. New Cup Size and Shape
2. New Lens Size and Shape
3. New Side Shields
4. New Easy Lens Replacement

AO's newest development in eye protection—Chippers' and Welders' Coverglas Goggles—can be worn over practically every pair of personal glasses (even the biggest frames) and most types of safety prescription goggles *with and without side shield.*

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American Optical
SAFETY PRODUCTS DIVISION

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(For full details, use Key # S-1 on free Inquiry Card on page 75)

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K-LENS-M K-LENS-M

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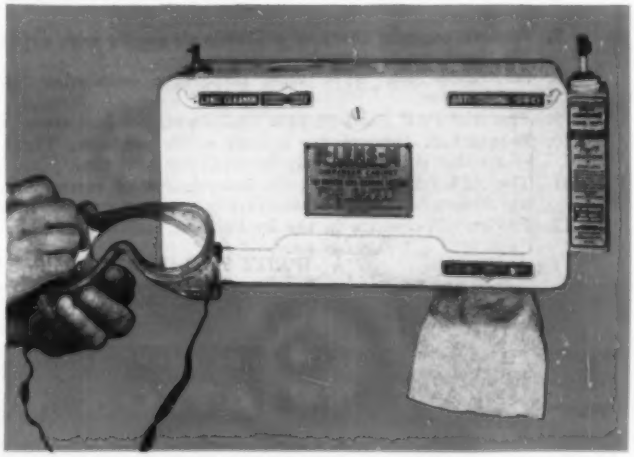

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(For full details, use Key # S-3 on free Inquiry Card on page 75)

THE FUTURE SHOWS

Groton, Conn. *June 1–2*

Ninth Annual Connecticut Industrial Safety Conference (Griswold Hotel). John W. Kent, manager, Connecticut Safety Society, 26 Chaucer Court, Woodmont, Connecticut.

Los Angeles, Calif. *July 13–15*

First Western Plant Maintenance Show and Conference (Pan Pacific Auditorium). Clapp & Poliak, Inc., Exposition Management, 759 Monadnock Bldg., San Francisco 5, Calif.

Cleveland, Ohio *Sept. 14–16*

Sixteenth Annual Ohio State Safety Conference & Exhibit (Hotel Carter). Carl L. Smith, Executive Secretary, 2073 E. 9th St., Cleveland 15, Ohio.

York Harbor, Maine *Sept. 16–17*

Twenty-seventh Annual Maine State Safety Conference. (Marshall House). A. F. Minchin, Secretary, Industrial Safety Division, Dept. of Labor and Industry, Augusta, Me.

Chicago, Ill. *Oct. 18–22*

Forty-Second Annual National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, General Secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Atlantic City, N. J. *Nov. 6–11*

First Annual Eastern Sanitary Supply Group Trade Show and Convention (Hotel Ambassador). William F. Plowfield, Executive Director, 4 S. 15th St., Philadelphia 2, Pa.

Chicago, Ill. *Jan. 24–27*

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(For full details, use Key # S-4 on free Inquiry Card on page 75)

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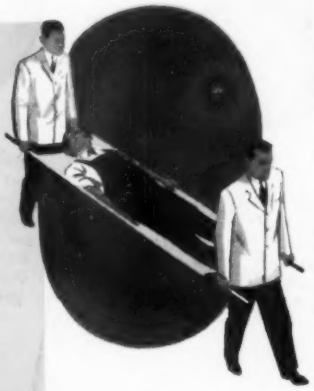
(For full details, use Key # S-5 on free Inquiry Card on page 75)

a little thing like a salt tablet* can be a big safety factor



Heat fatigue, especially during summer, is one of your plant's biggest problems. Unless the body salt lost through sweating is replaced, your workers not only become tired and less productive, but also may suffer serious heat prostration. As a result, costly accidents can occur.

***Morton Yellow Impregnated Salt Tablets** maintain the worker's body efficiency. Their controlled action gives *immediate* relief *without causing nausea,* as each salt crystal is thoroughly impregnated by a special patented process that controls the tablet's rate of dissolving. In this way, salt is replaced *immediately,* but at a *gradual* rate.

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(For full details, use Key # S-6 on free Inquiry Card on page 75)

Check List of Aids to Production:

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Machine shop of Dravo Corporation after being repainted according to COLOR DYNAMICS. This steel-framed structure, 483 feet long by 138 feet wide, is located on Neville Island, near Pittsburgh, Pa.

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"One Of The Best Things That's Happened In Our Plant!"

Dravo Corporation's workers and management agree enthusiastically that functional use of color improves working conditions and increases productivity ...*Yet it costs no more* than normal maintenance painting!

AN OUTSTANDING EXAMPLE of the improvement in productivity and morale that results from the use of Pittsburgh COLOR DYNAMICS is the huge machine shop of Dravo Corporation, builders of heavy industrial equipment.

The activities in this shop include all machining and assembly operations required to produce individualized mechanical assemblies for river tow-boats, shipyard cranes, ore bridges and similar heavy machinery.

This plant was repainted according to COLOR DYNAMICS. The beneficial effects of this painting system are best described in these words of a Dravo Corporation spokesman:

"As the dull, drab gray was replaced by the modern, functional colors Pittsburgh carefully engineered for our requirements, workers enthusiastically commented, 'This is one of the best things that's happened in our plant!'

"Thus COLOR DYNAMICS provides a 'lift' for management-employee relations through improvement that can be seen, felt and appreciated. Further, there are dollars-and-cents advantages resulting from higher productivity at lower costs.

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Pittsburgh Plate Glass Co., Paint Div.
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(For full details, use Key # S-8 on free Inquiry Card on page 75)

COPPUS "BLUE RIBBON" VENTILATORS

Used in wide variety of applications throughout industry

Improve workers' safety . . . health . . . comfort . . . efficiency

VANO DESIGN "A" VENTILATOR is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8″ diameter flexible canvas tubing ("Ventube").

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VANO DESIGN "C" VENTILATOR here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8″ suction inlet for 8″ non-collapsible suction tubing — or multiple inlet nozzles for 5″, 4″, and 3″ suction hose. The discharge may be connected to 8″ "Ventube." Capacities furnished on request.

NO. 2 AEROPLANE HEAT KILLER here directs cool, fresh air on worker in drop forge plant. Heat killers restore workers' efficiency by providing extra ventilation in the hot months, or on any job where workers are continually or periodically required to work in excessive heat. Available in two types, three sizes in each.

VENTAIR DESIGN TE-4 VENTILATOR Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8″ diameter flexible canvas tubing ("Ventube").

PORTAIR NO. 4 BLOWER EXHAUSTER exhausts fumes resulting from soldering, welding, tank coating, is also used in ventilating small tanks. It is designed to permit attachment of 4″ flexible metal hose. Capacity: 425 CFM free air.

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- ☐ in underground cable manholes
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- ☐ stirring up stagnant air wherever men are working or material is drying
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Company .....

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City .....Zone....State.....

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ALLENTOWN, PA.

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EST. 1901

VOL. 107, NO. 6 **JUNE, 1954**

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AMERICA'S PIONEER MAGAZINE IN ITS FIELD

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It's Safe to Say

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★ "GOOD OLD DAYS" STILL HERE

KNOWING full well that we would initiate friendly controversy and differences of opinion, we published in the May issue of SAFETY MAINTENANCE the article, "Were They Better in the Good Old Days?" by John Quesal, long a recognized safety authority. However, we seemed to have stirred up a veritable hornet's nest as many readers grabbed pen, pencil and typewriter both to agree thoroughly with the author's contentions or take violent issue with his views.

A case in point is a letter from a plant superintendent who combines the duties of safety director for a firm of reputable paint manufacturers in the greater New York area. According to reader David Platt of Evans Bros., Inc., there is no doubt that more accidents can and should be prevented since 100% must always be the goal in safety, utopian though that objective may be. However, Mr. Platt rightly states that "blasting today's safety craftsmen is not the way to achieve that goal and that good as the old timers and deans of safety were in their day, the fact remains that accident frequency was still many times greater than it is today." As an example, Mr. Platt reminds us that in 1946, the accident frequency rate of his company was 30.71 and by 1952, it had been decreased to 8.40.

In rebuttal, Mr. Platt states that his paint manufacturing plant has been one among thousands which, with the aid of a modern safety expert, has eliminated a large percentage of costly accidents and, in recognition of the company's outstanding safety record, his organization has been awarded a plaque for accident prevention achievement by its insurance carrier.

One non-controversial fact looms large in the goal toward greater safety: to perform a work job correctly and economically, modern efficiency must be given free rein. Mr. Platt rightly reminds us that a plant is not efficient if it is not also safe. Editorially, we have been saying for decades that efficiency and safety are not merely integral parts of plant operation; rather, they are synonymous.

To remedy the accident situation with its attendant loss of manpower, production and its accompanying tragedy and financial burden, a safety committee consisting of both management and labor was formed in Mr. Platt's company. The duty of this group was to study every detail of paint manufacture and to propose methods by which accidents could be reduced with the least possible delay. They also enlisted the aid and advice of an expert affiliated with their insurance carrier and thus there was born a union of minds looking toward the elimination of inefficient practices responsible for accidents in the plant.

The man on the job was encouraged to attend safety committee meetings and voice their "gripes" as well as give concrete suggestions for safety. Among the committee's first proposals was the requirement to furnish each employee in the plant with steel-toe safety shoes, safety gloves and protective devices for saving eyesight. A general housekeeping program was inaugurated and during the very first six months of the new safety plan—no hit-or-miss affair, but a continuing crusade—accidental casualties were reduced one-half. The record was improved each year.

By adopting the most modern accident prevention techniques, embracing such plans as preemployment physical examinations, utmost worker cooperation, latest improvements in protective equipment, products and equipment, the plant of Mr. Platt was able to effect a production increase of 38.7% within three years *with the same number of employees* and the total number of accidents in 1953 was *less than one-tenth the total number in 1950.*

No, indeed, just as the frontiers for national development in this country are not all closed in, so too can accident prevention be considered a never-ending plan requiring the advice, guidance and experience of the old-timers plus the all-important contribution to be made by the "young-timers." It is they who must grasp the constantly changing techniques made necessary by the introduction of new hazards never dreamed of fifty years ago when SAFETY MAINTENANCE crawled around in swaddling clothes. It is most encouraging to know that the torch first lighted by the pioneers is still being held aloft and its flame kept burning brighter by those who must come after. The very first lesson to be learned from any accident prevention crusade is that it is a dynamic, forward-looking development which never can be viewed as static if we would maintain our position of production leadership. H.A.

THIS "PEDIGREE"

ASSURES COMPLETE

QUALITY CONTROL

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M. C.

Houston, Texas

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HOUSE LETTER

G. H. PACKWOOD MANUFACTURING CO. ST. LOUIS MISSOURI

DATE: 3/6/54 HOUR:

TO: J. Berkley Houston

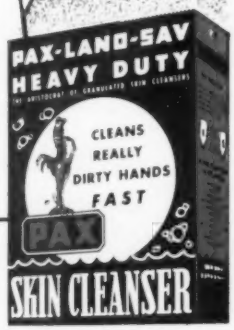
CITY: Houston, Texas

FROM: Jim Ohman

Dear Berk:

This good gentleman works at the Chronicle Publishing Co., publishers of the South's largest newspaper who just recently started using PAX-LANO-SAV HEAVY DUTY. He and several other men that work in the press room thought it was so good that they decided to buy some for home consumption. He copied the St. Louis address off an empty box and wrote you the postcard. He tried to phone me twice today. He finally got hold of me this evening - said he was going to buy a case of ten 5 lb. cartons for himself. He's got five boys, who, as he put it, "Get plenty good and dirty!"

ACCEPTED COMMITTEE ON EQUIPMENT NATIONAL SAFETY COUNCIL



When workmen buy it for their own use, you know that an industrial skin cleanser has got to be good. PAX files are full of letters* from users who took the time to sit down and say so. Industrial buyers seldom write complimentary letters but the repeat orders they keep sending in are more than proof enough that they too know that it pays to get

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CAMERA CATCHES SAFETY IN THE ACT!

By A. B. HOFTIEZER
Safety Supervisor
Laverack and Haines, Inc.
Buffalo, N. Y.

THEY say the pen is mightier than the sword, but I believe that a camera can be mightier than both. The safety engineer who ignores the camera for inspection is depriving himself of a very effective weapon in the continuing war against accidents.

Going through a plant with a camera, taking pictures of conditions that are found to be unsafe or contrary to good safety standards is a hundred times more effective than to write a list of recommendations, describing what is wrong and what should be done to correct it. It makes it easier, too, for management to pass a recommendation along to the supervisors.

If the pictures are used as slides, the material can be brought up at a safety meeting in such a way that everyone there can visualize the problem, think about it, and discuss it simultaneously. If they are used as bulletins, the pictures can reach directly to the workmen themselves, pinpointing the hazard and making them think about it.

For Achievement Also

There is one angle on safety inspections that is too often overlooked, and that lends itself very effectively to coverage with a camera —emphasizing correct safety conditions.

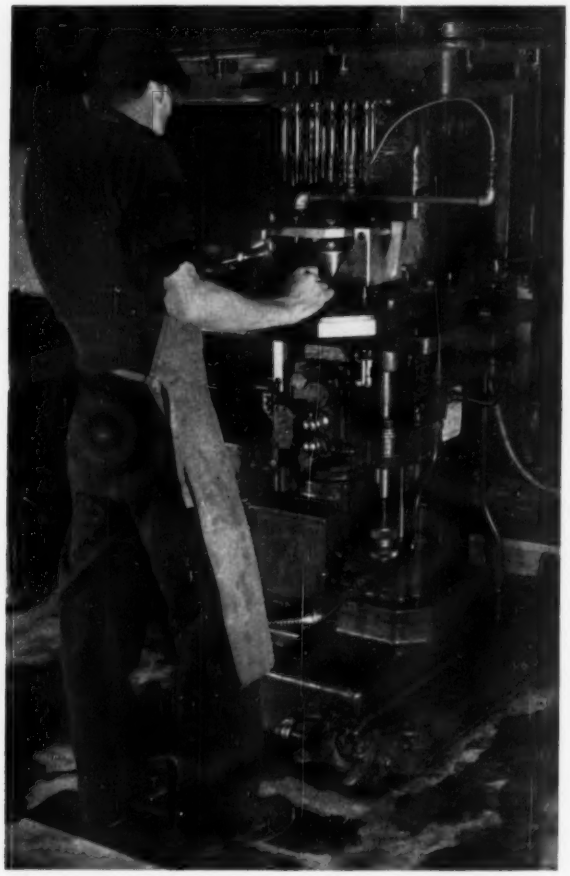
It seems to me that safety inspectors, or safety engineers if they rate that title, have got themselves

(Continued on page 26)

By E. WILLARD MERRITT
Safety Director
Walter G. Legge Co., Inc.

FEATURE

Third article of a series of features on Maintenance Problems. First two articles appeared in April and May issues.



SAVE MONEY...

EFFICIENT MAINTENANCE

Slippery walking surfaces produce fatigue. People forced to walk on slippery floors develop an unnatural stiff-legged, flat-footed stride.

Time studies show that the resultant fatigue usually begins to take its toll about 2 P.M. of the normal working day. The worker's efficiency decreases as mental and physical breakdown begins. The result is a production-loss both in quantity and quality. As the worker's efficiency travels the downward arch, he (or she) becomes accident-prone. This causes innumerable accidents not

INCREASE PRODUCTION...

HOUSEKEEPING is a man-sized job that greatly influences your pocketbook as well as your safety and production records. It can seriously affect a plant's entire operation, if it isn't done intelligently.

Let's start with two simple axioms: (1) Dirty floors cause accidents. (2) Slippery floors cause accidents.

Picture yourself walking back and forth across an ice pond, day after day. Maybe you are lucky enough—or cautious enough—to avoid taking a pratfall. But you haven't escaped entirely. A large chunk of your normal efficiency has deserted you. Here is why.

remotely connected with slipping and falling. But for slippery floor fatigue, they would never have occurred.

We'll return to the menace of slippery floors in a moment, but first let's dwell on the subject of cleanliness. Cleaning floors means more than removing rubbish from work areas and touching up oil slicks or wet areas. To begin, we can classify floors according to their functional values:

(1) Manufacturing or utility area floors.
(2) Office or executive area floors.

Call the first group the "Behind the Scenes Floors,"

because the general public doesn't normally see them; and call the second group "Decorative Floors." The first type of flooring is selected for ruggedness, ability to withstand the abrasion of industrial traffic and heavy activity of manufacturing or storage areas. This floor is usually cement, wood, or, possibly, a sturdy composition. The office floor, selected for decorativeness or resilience, is most often linoleum, rubber, asphalt tile, cork, vinyl plastic, travertine and, sometimes, terrazzo or marble.

Behind the Scenes Floors

Polishing is no problem with manufacturing area floors, but dirt and dust as well as spillage of oil and grease make cleaning a never-ending task. Frequent sweepings with an oil-free sweeping compound pick up most of the free dirt and absorb spilled liquids. This should be supplemented by scrubbings with a good cleaning solution. In spots where oil spillage is constant, it's a good idea to sprinkle an oil absorbent compound on the floor to prevent accidents between visits of the cleaning crews. Particularly dangerous spots can be pin-pointed with abrasive floor coatings that make them permanently non-slip.

The cleaning solution used in scrubbing wood or concrete "utility" floors should be chosen with care. It pays to use a "quality" cleaner. You'll make up the extra cost in the time it saves and the better, safer job it does. Steer clear of high alkaline content cleaners, as they are harmful to floors as well as to the user. Avoid using too much water on wood floors.

If you use soap or soap powder, be very careful to rinse thoroughly. Improper rinsing of soap-washed floors leaves a film of soap which builds up, washing after washing. Eventually you're walking on soap. A railroad terminal had a lot of slip and fall accidents on a ramp leading to the trains until they investigated cleaning methods. They had washed the ramp regularly with soap. When they changed cleaners, the falls stopped.

Power machines will help you through the cleaning job . . . make it faster and more thorough. Scrubbing machines do a better job than any amount of hand brushing. Rubber squeegees or vacuum pickups help remove the solution, though you'll still need mops to get all the grit and soil off the floor. *(Cont'd next page)*

FLOOR METHODS...

STOP ACCIDENTS...

Although we've discussed cleaning measures from the standpoint of floor safety, these same steps also help protect the floor from wear and make it last. An untended floor is the first to go. That's even truer of the floors in the "appearance" group, which usually cost more.

Let's take the cold dollars-and-cents outlook for a minute. Expensive floors are subjected to a lot of traffic and wear. So, to protect your investment you spend money to take care of them. Sometimes, however, the method of care gets out of hand. For example, a hospital had to put 8 men to work for a whole night once a week to maintain a relatively small reception room. At the end of a year the labor cost alone of maintaining that one floor was 3 thousand dollars more than the cost of the whole floor. That expense continued yearly.

This example serves to illustrate an interesting point about floor upkeep costs. Out of every dollar spent on caring for floors, from 75 to 90 cents goes to pay for the labor of cleaning those floors. The remainder, 10 to 25 cents, amply covers the cost of both the necessary materials and tools. The place to hold floor cleaning expenses down is on labor. The less time it takes to use your floor cleaning materials, the more money you'll save on floor upkeep. That doesn't mean that you can skimp a little. If you do, there are other costs that can catch up with you . . . accidents, for one.

Protection First

The basic purposes behind the upkeep of "appearance" floors are to protect them from wear and to keep them safe and looking their best. In the case of resilient floors—like linoleum, asphalt tile, rubber, cork, wood, etc.—these purposes are accomplished by keeping a protective coat of polish on the flooring.

That needn't lead to a rash of slips and falls. Polished floors can be safe—if they're properly cared for and if proper care has been expressed in selecting the non-slip polish. The care need not be expensive, either.

Resilient Floor Cleaning

The first thing a resilient floor gets is a thorough cleaning . . . to remove any dirt or grit, to get rid of left-over wax deposits and to prepare it to receive its new finish. This is a "roll-up your sleeves and dig in" job . . . and it takes more time than any other part of the total floor upkeep operation.

Here again you'll want a commercially neutral cleaner that will go to work and do the job quickly and thoroughly. Strong alkaline solutions should be avoided. Such solutions will be harmful to floors such as linoleum, asphalt tile, rubber, cork, etc. In the case of asphalt tile, trowelled mastic, or rubber floors, never use a solvent type cleaner. It is not advisable to use a soap with a high fatty acid content. This type of cleaner will penetrate into the pores of the floor and cause it to become slick and slippery.

The best general advice on choosing a cleaner for resilient floors is to avoid harsh cleaners with caustic content, and stick to a commercially neutral product, free of slippery soap. To really clean a resilient floor, it is best to use powered equipment . . . although with enough elbow grease, it can be done by hand. In the latter case, deck brushes or steel wool pads are effective. With a powered scrubber, basine or palmetto brushes, or pads of steel wool, can be used. The whole cleaning operation, including whatever added neutralizing may be necessary, is tedious, but important, because this is the "face" of the floor that will be seen. Good cleaning materials will shorten the job.

Polish and Safety

When the preparation of the floor (sometimes called "stripping") is complete, the next step is to seal in that bright, new surface so it won't get dirty, and so traffic won't wear it away. This calls for a protective polish, and this is the most critical point safety-wise.

The exact type of product you select will depend on the flooring to be polished. Whatever the flooring, if you want floor safety, the polish should be non-slip when applied to the floor. What's more, it should be so formulated that regardless of how much buffing or traffic wear it gets, your safety factor remains constantly high. Watch out for non-slip waxes that get slippery when buffed, or become slippery on thoroughly drying out. To be completely effective, the non-slip polish you choose should also have these qualities: it should give your flooring a protective coating that resists traffic wear; it should polish to an attractive gloss; it should not water spot; and it should be easy to use.

A water emulsion non-slip polish is satisfactory for linoleum, rubber, asphalt tile, and similar floors. A spirit base non-slip polish is normally preferred for wood or cork . . . though it may also be used on linoleum. Never use a spirit base polish on asphalt tile or rubber floors.

For applying non-slip polishes, a mop is the most practical instrument for large areas, particularly when a water emulsion polish is used. The mop can be dampened with cold water before saturating with the polish; this eliminates a considerable waste of material. The mop should be clean and any loose strings cut off to avoid streaks. A standard wax applicator can be used.

It is more desirable to apply several thin coats of non-slip polish than one heavy coat. The thin coats will adhere to the floor better, dry more rapidly and harden sooner, while the heavy coat will remain soft and mark badly for a considerable time. In most cases it will have to be stripped off and reapplied more frequently than thin coats.

The preparation and polishing of a hard-surface floor —like terrazzo, marble, glazed tile, etc.—is quite different from the procedure for resilient floors, although some of the same principles apply. Caring for these floors can be simplified by combining the two opera-

(Continued on page 41)

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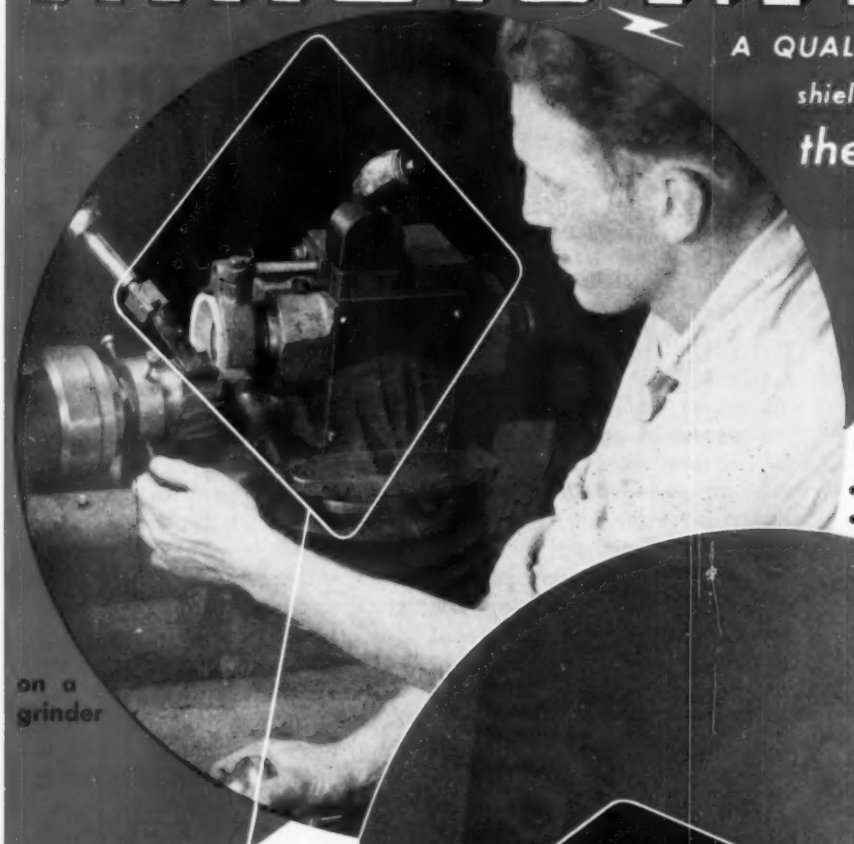
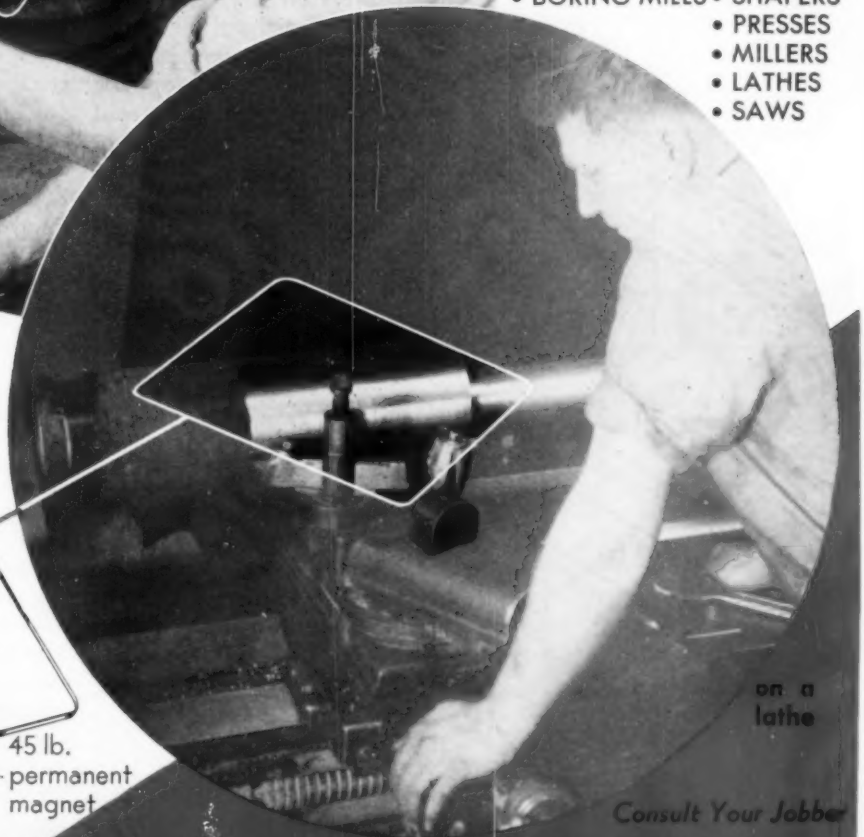
- MILLERS
- LATHES
- SAWS



on a grinder



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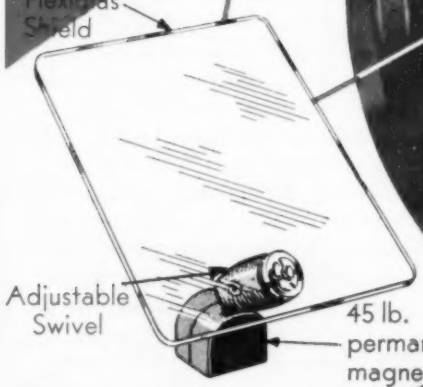

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HOW TO CHECK LADDERS AND SCAFFOLDS

By W.E. ROSSNAGEL
Safety Engineer
Consolidated Edison Company
of New York

FEATURE

First article of a series on Ladders & Scaffolds. Next articles will appear in July & August issues.

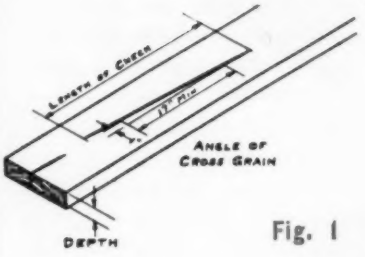


Fig. 1

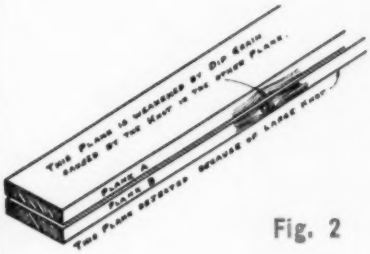

This Plank is Weakened by Big Grain Caused by the Knot in the other Plank.
Plank A
Plank B
This Plank Rejected Because of Large Knot

Fig. 2

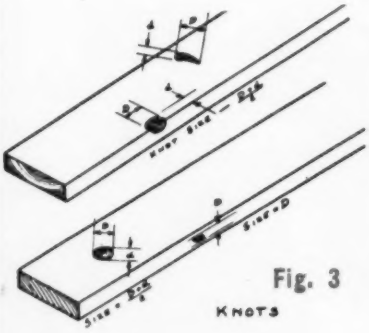


Fig. 3

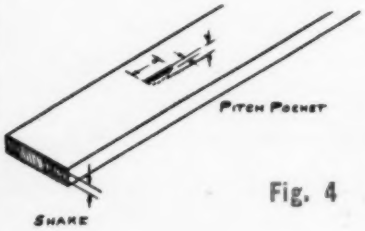


Fig. 4

LET'S talk first about scaffold planks. The initial step in the safe use of scaffold planks is the procurement of good, sound material, free from serious defects, and of such size and strength as to safely support live loads they are expected to carry. It is difficult, for several reasons, to figure the strength of a scaffold plank. First, the magnitude of the live load is largely a matter of guesswork. Second, the span is of questionable length; and third, the actual strength of the material, with all its inherent defects, must be approximated.

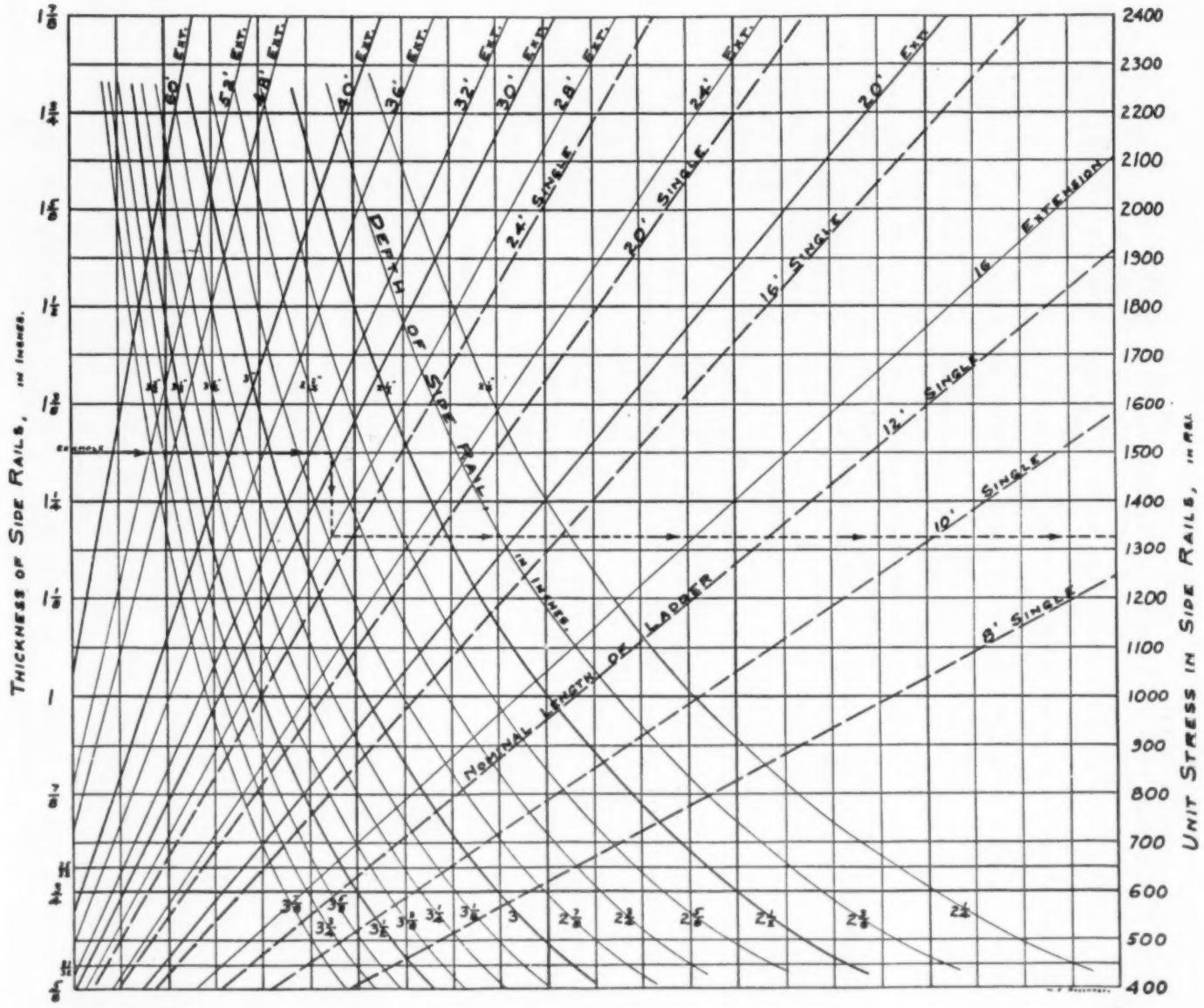
There is no such thing as a perfect plank. However, the Forest Products Laboratory publishes tables of the strengths and other properties of small, selected, clear specimens of various species of wood. Data is also published on the strength reduction caused by certain defects of different magnitudes. It is possible in this way to select arbitrarily a "strength ratio," which is the ratio of the strength of an actual plank to the strength of a theoretically perfect plank, and to limit defects so as to maintain this strength ratio.

What to Look For

In its specifications for the purchase of scaffold planks, our company calls for a strength ratio of 80 percent, and gives the maximum defects which can be tolerated. The specification calls for properly seasoned wood, free from rot, warp, wane, low density or brash material, boxed heart material, splits, holes, compression wood, etc. Rot and brash wood may be detected by appearance, and by trying to lift a tiny splinter on the point of the small, sharp blade of a penknife. If the wood is tough, a splinter can be lifted without breaking it. If it is brash, a small piece of punk wood will lift out.

Cross grain is measured as shown in Fig. 1. Within the middle half of the length of the plank it is limited to a deviation of 1 inch in not less than 17 inches; elsewhere it is limited to 1 inch in 12 inches. This may be determined by observing the direction of checks or resin ducts, by shaving a small area with a knife and allowing ink from the point of a fountain pen to run in the wood fibres, or by pulling up a splinter on the point of a knife and noting the direction of the fibres. Local deviations caused by knots, either in the plank in question or in the adjacent plank cut from the same log, (Fig. 2), should not exceed a ratio of 1 to 12 if within one-half inch of the edge of the plank and if within the middle half of its length.

Fig. 3 shows the method of measuring knots. Those appearing within the middle one-third of the length of the plank should be limited to three-quarters of an inch if within 1 inch of the edge of the plank or 1 inch if farther from the edge. Checks and shakes are measured as shown in Figs. 1 and 4 re-



Pressures Withstood By Different Woods

Maximum for Group 1 Woods (2150)

White Ash	Beech	Birch
Rock Elm	Hickory	Black Locust
Honey Locust	Hard Maple	Red Maple
Red Oak	White Oak	Pecan
	Persimmon	

Maximum for Group 2 Woods (2000)

Douglas Fir	Southern Yellow Pine

Maximum for Group 3 Woods (1870)

Oregon Ash	Pumpkin Ash	Port Orford Cedar
Cucumber	Soft Elm	West Coast Hemlock
Western Larch	Oregon Maple	Norway Pine
	Tamarack	

Maximum for Group 4 Woods (1600)

Red Alder	Alaska Cedar	Red Cypress
White Cypress	Yellow Cypress	Noble Fir
Silver Fir	White Fir	Black Oak
Red Gum	Hackberry	Holly
Magnolia	Soft Maple	Idaho White Pine
Yellow Poplar	Redwood	Eastern Spruce
Sitka Spruce	Sycamore	Tupelo

Maximum for Group 5 Woods (1380)

Aspen	Basswood	Buckeye
Butternut	Incense Cedar	Western Red Cedar
Chestnut	Cotton Wood	Black Cottonwood
Eastern Hemlock	Lodgepole Pine	Northern White Pine
Ponderosa Pine		Sugar Pine

Chart Calculated From
Formula in A. S. A. 1948 Ladder Code

$$S = \frac{1.2 \times 1.5 \times (25 + \frac{W}{2}) \times 12}{8 \times (D - 0.5)}$$

Based upon a 200 lb. Man Standing on Middle Rung of Ladder Placed at the Proper Angle.

STRESSES IN WOOD LADDERS

Consolidated Edison System
Safety Bureau

spectively. Splits should not extend more than 3 inches from either end of the plank.

Compression failures are treacherous, but detecting them in a rough-sawed plank is next to impossible. Hence, even the mere suspicion of the presence of a compression failure will justify the rejection of the plank. Don't overlook the so-called minor defects either, such as pitch pockets, wane, pitch streaks, etc. All scaffold planks should be carefully inspected by a qualified wood inspector before being accepted. In some instances, however, even though it meets the requirements of the specification, the inspector may have a feeling, which he cannot explain, that a plank is not safe, and that he would like to subject it to a load test.

Load Tests?

There has long been a wide difference of opinion as to the desirability of subjecting a scaffold plank to a load test before placing it in use. One school of thought believes that it is necessary to test all scaffold planks to prevent using a defective one. Another group believes that a visual inspection is sufficient, and that load testing has little or no value. In fact, they believe that there is a greater probability of weakening a good plank during the test than of detecting a weak plank.

Both viewpoints have merit. Nevertheless, I believe that it is safer to prohibit all load-testing rather than to permit indiscriminate testing, and to place full reliance upon visual inspection. On the other hand, if a load test can be scientifically conducted, it should satisfy both the pro- and the anti-testers. Let's consider a load test which may be expected to detect weak planks, such as those of brash wood or planks containing compression failures, without damaging a good plank.

Some state industrial codes require that all scaffolds shall be tested by applying a load 3 times the live load they are expected to carry. However, how much load is a scaffold plank expected to carry? Our guess is the weight of 1 man, so for the test let us assume a concentrated load equal to the weight of 3 men applied at the center of the plank span. Ordinarily a 13-foot plank will have not more than a 10-foot span, but let's figure on a 12-foot span.

This static load should produce a stress of 3900 psi, and it should deflect a spruce plank about 5 and three-quarters inches. Place the plank so as to rest upon two 6 by 6 inch blocks set 12 feet apart. Of course, the test should be conducted upon a concrete floor or other plane surface. The weight of 3 average men applied to the middle of the plank should deflect the plank until it just touches the floor. No matter how much additional load is applied, the deflection cannot exceed 5 and three-quarters inches, and the unit stress cannot exceed above 3900 psi, for the stress is related to the deflection, and the deflection is limited by the plank resting on the floor.

Wood Behavior

Now, wood behaves in a peculiar manner. Under static loading the ultimate strength for black spruce, for example is about 10,290 psi; but even the elastic limit under an impact load is 13,400 psi. So instead of applying a static load, let 2 men stand upon the plank and spring it up and down until it touches or nearly touches the floor several times. With the spring test, the factor of safety during the test is nearly twice as great as during a static test.

There is another interesting fact about wood behavior. Brash wood, and wood containing compression failures, are noticeably weak under an impact or suddenly applied load. So you will see, by applying the dynamic load test just described there is less danger of damaging a good plank, yet there is greater probability of breaking a defective plank.

If during the spring test there is no cracking sound or other evidence of failure, the plank should be turned over and the test repeated on the other side. If, however, a faint snapping sound is heard in the vicinity of a knot in the plank, it probably means that the knot is tending to pull loose from the surrounding wood. This, however, is not sufficient cause for condemning the plank. Turn the plank over onto the other face, test it, then return it to the questionable face and test it again. If no further snapping sound is heard, the plank may be accepted. This method of testing scaffold planks has been used by our company for about 15 years, with excellent results.

After the planks have been accepted and branded, painted or otherwise marked for scaffold use, they should be handled with care. Never allow a load of inspected scaffold planks to be dumped from a truck by quickly moving the truck from under them. When planks strike the ground in this manner it is possible for them to be overstressed and to develop compression failures. Then, when used for a scaffold, they may fail without warning with an abrupt splinterless fracture. Don't drop planks to the ground when dismantling the scaffold; don't allow trucks to ride over them; and don't use a plank in place of a crowbar. Scaffold planks must be handled with care.

Wood Ladders

Ladders also must be handled with care if accidents are to be avoided. What I have to say applies particularly to single and extension ladders. After numerous destructive load tests on new extension ladders we believe that sitka spruce is probably the most desirable wood for ladder side rails. In inspecting a newly purchased wood ladder it's important to check the dimensions of the side rails against the minimum dimensions permitted by the ASA ladder code. Reputable ladder manufacturers usually make the side rails considerably heavier than required by the code. Sometimes the thickness may be slightly under-size, while the depth of the side rails is over-size, or vice versa. In such instances the strength of the ladder may be checked by using the chart

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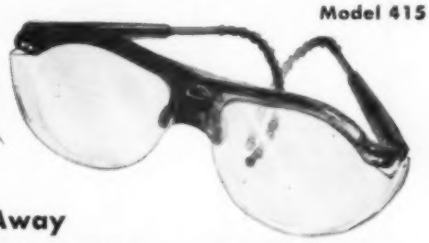
Model 415



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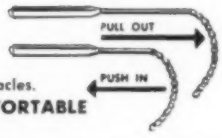
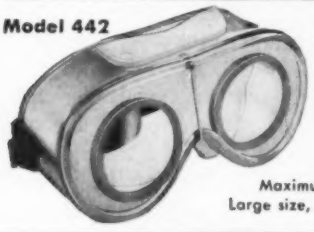


Model 442



Soft Vinyl Frame 50 mm Round Hardened Safety Glass Lenses

Maximum protection where there is extreme abrasion.
Maximum comfort and minimum weight.
Large size, fits over all prescription glasses.

Visor-Tuc

Model 422

New Over-Eyes Protection

Almost 100% protection, plus all the comfort of "Tuc-Away". "Visor-Tuc" fits snugly against the forehead. Shatterproof Eye Savers lenses interchangeable in Tuc-Away Model.

Model 492

Welding Goggle Opaque Black Soft Vinyl Frame

Furnished with replaceable 50 mm round, Federal Specification, filter lens shades 3, 4, 5 or 6, protected inside and out by cover lenses.

Split Joint

Model 80

Split Joint Frame makes changing lenses a simple operation, no heating to distort frame. Retrax temple easily adjusted — One size Standard 47 mm drop eye lenses. Removable clip-on side shields available.

Quick, easy replacement of:
PLASTIC SAFETY LENSES
PRESCRIPTION LENSES
PLANO SAFETY GLASS LENSES

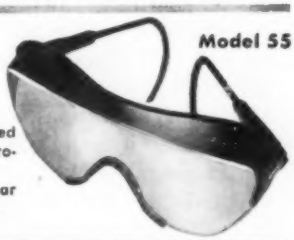
Model 99

Cheepee One-Piece Goggles

Close fitting, lightweight, comfortable.
Optically correct . . . no distortion.
Available in clear or medium green.

Methaspec Eye Shield

Model 55



Optically correct, one piece, curved Methacrylate Eye Savers Lens provides heavy impact protection.
Lens is .080" thick, available in clear or light, medium and dark green.

For details, see your Authorized Eye Savers Supplier or write direct

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

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In Canada: Levitt-Safety Limited, Toronto 10, Montreal 26
(For full details, use Key # S-14 on free Inquiry Card on page 75)

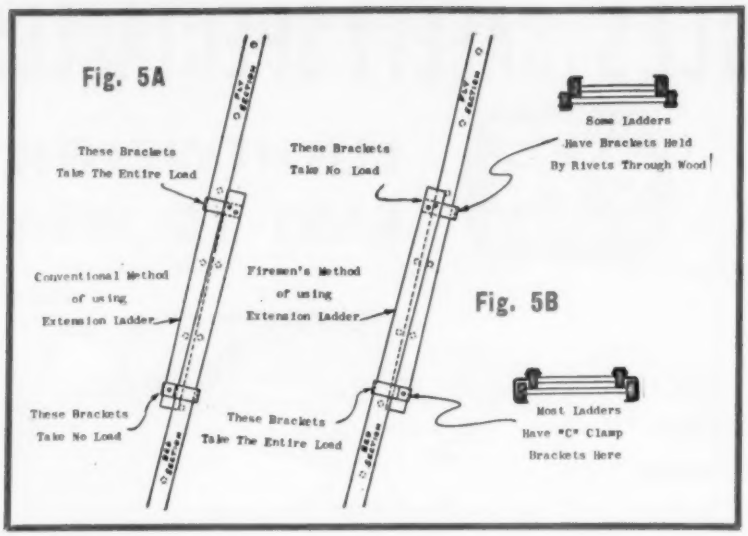
Fig. 5A
These Brackets Take The Entire Load
These Brackets Take No Load
Some Ladders Have Brackets Held By Rivets Through Wood!
Conventional Method of using Extension Ladder
Firemen's Method of using Extension Ladder
Fig. 5B
These Brackets Take No Load
These Brackets Take The Entire Load
Most Ladders Have "C" Clamp Brackets Here

on page 19 which has been developed from the formula in the ladder code.

For instance, suppose you desire to investigate the strength of a 28-foot extension ladder having 1 and five-sixteenths by 2 and three-quarters inch sitka spruce side rails. Enter the chart at 1 and five-sixteenth inch thickness, follow horizontally to the curve indicating 2 and three-quarter inch depth, then vertically to the line representing a 28-foot extension ladder, and finally horizontally to the right margin where you read 1325 psi unit stress. Inasmuch as sitka spruce is good for 1600 psi, the ladder in question is of adequate strength (provided of course the material is of good quality).

The ladder code limits the angle of cross grain in the side rails to a ratio of 1 to 12, unless the side rails are considerably heavier than the minimum dimensions. Obviously, cross grain is more objectionable within the middle half of the length of the ladder; and in an extension ladder this means the top half of the bed section and the bottom half of the fly section.

The code permits "local deviations" in the grain greater than the 1 to 12 ratio mentioned above, but under destructive load tests on new ladders we found that many failures originated in such local deviations as the dip grain resulting from a knot in an adjacent piece of wood cut from the same plank. For this reason, our company does not permit local deviations greater than 1 to 12, if within one-half inch of the edge of the piece, and if within the middle half of the length of the ladder. We prefer edge-grain material for side rails; that is, wood with the annual rings (as observed on the ends of the rails) running parallel with the narrow faces. Such material, however, is not always obtainable.

Ladder Load Tests?

As with scaffold planks, probably the worst and most treacherous defects are brash wood and wood containing compression failures. Both are cause for rejection of a ladder. Fortunately, they are more easily detected in ladders than in rough scaffold planks.

Now for the controversial subject. Should a wood ladder be load tested? The answer is "No," for here also the test may seriously weaken a perfectly good piece of wood. Many years ago, some industrial plants used to test their new ladders. According to their practice, the ladder was extended and placed across 2 wooden horses, and a 200 pound load was applied to the middle of the ladder for 5 minutes. In one instance, the inspector examined the ladder, found nothing objectionable, and applied the load. At the end of the 5 minute test period he filled out the inspection report as O K, and signed it. Then the ladder broke.

Someone may ask "How about making a load test similar to that made on scaffold planks?" Yes, theoretically that can be done. But scaffold planks come in only 2 or 3 standard sizes, whereas ladders come in a wide variety. There may be as many as 12 different lengths, perhaps 6 different thicknesses of side rails, and 6 depths also. Then there may be 3 or 4 species of wood used for ladder side rails. In order to calculate the height of the test fulcrums, we might have to work out the elaborate formula a thousand times to take care of all the different combinations. Using a chart or a table covering all these conditions there is always the possibility of error. So, the answer is "No," don't test wood ladders.

Paint and Care

Never buy a painted ladder, for the vendor must have had a good reason for going to the trouble and expense of painting it. The paint may have very nicely concealed serious defects. Knots, cross grain, compression wood, pitch pockets and shakes, if they did not exist at the time of the inspection, could not possibly develop under the paint at a later date. After a ladder has been properly inspected and approved, there is no objection to painting it, for defects developing later, such as compression failures and checks, would show through the coating.

Always handle a wood ladder with extreme care, for you may be the next man to risk your life on it. Don't place a ladder too roughly against a building or other structure, and by all means don't drop it to the ground. Place the ladder with the base out from the building wall 1 foot for every 4-foot length of the ladder up to the point of support. This will give the greatest protection against the base slipping, or the ladder upsetting.

The question sometimes arises as to which is the proper way to use an

(Continued on page 28)

Your Workers will be proud to wear Safety Shoes with WINGUARD Steel Toes

IN 19 STYLES
•
A STEEL TOE FOR EVERY SAFETY PURPOSE

Appearance, of course, isn't everything but you'll be amazed how it will help you to persuade your workers to protect their priceless toes with safety shoes.
While it is true we have 19 different styles of austempered steel toes available, WINGUARDS are by far the most popular for styling your safety shoe requirements.

Safety Box Toe Company

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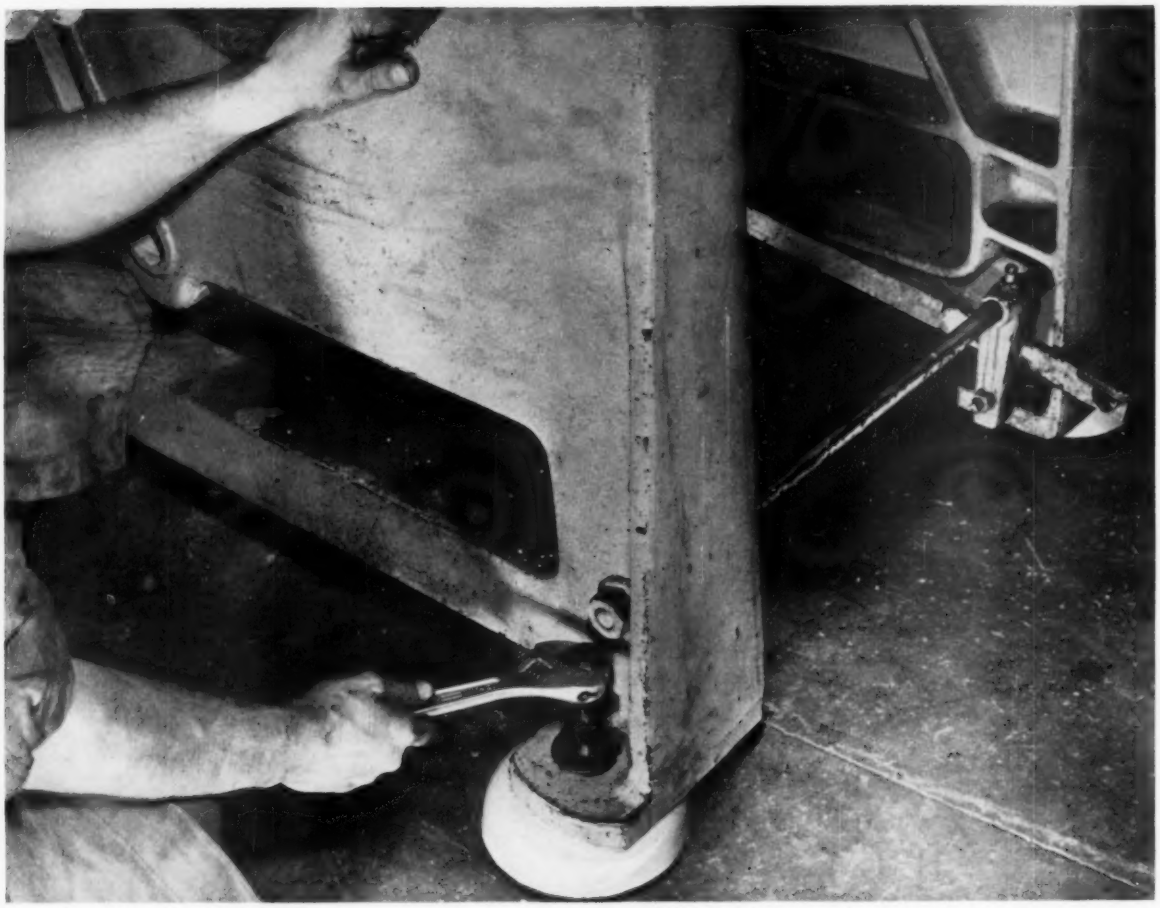
SELLING AGENTS: BECKWITH MANUFACTURING COMPANY, DOVER, N. H.

WRIGHT-GUHMAN COMPANY, ST. LOUIS, MO. BECKWITH BOX TOE, LTD., SHERBROOKE, P. Q., CANADA LENNART LJUNGQVIST, TIBRO, SWEDEN

(For full details, use Key # S-15 on free Inquiry Card on page 75)

ON THE LEVEL



Simple turns of nut fasten, unfasten, and level vibration-absorbing, noiseless machine mounting. Mounting also makes machines movable.

AN IMPORTANT industrial machine mounting concept, developed during World War II, promises to take the problems of plant mobility out of the stagecoach era, cut down noise tremendously, and protect both machines and floors.

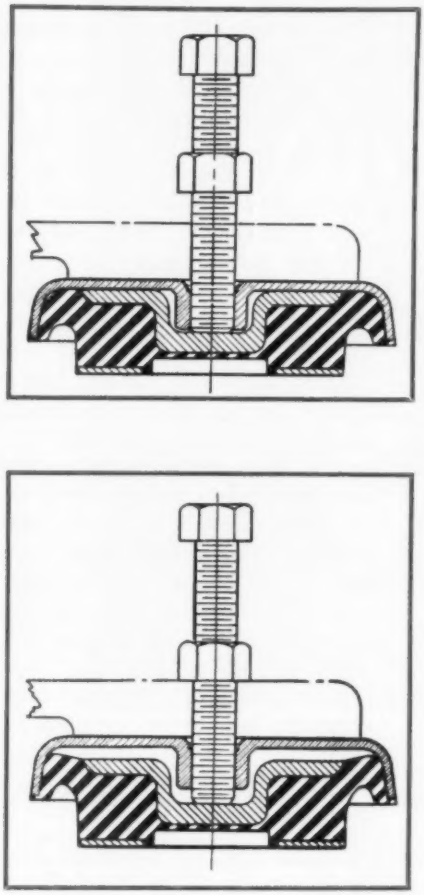
Light leveling mountings, capable of supporting 6 tons each, are proving boons to engineers planning new plants, production lines, and the transfer of old ones. Conventional machine mountings, which often require concrete beds to support thick floor bolts, give management only one chance to predict the best placement of production lines and their machines, unless a major, time-consuming task of removing all the bolts, filling the holes and redrilling new ones is undertaken. Once the machines are down they tend to stay put.

Waste motion and duplication of effort can be eliminated quickly if a machine can be picked up without taking half the floor with it. Installing and leveling heavy machinery in minutes without bolting is now possible. The mounting devices are simply attached to a machine foot and can remain attached indefinitely.* The machine foot is lifted, the mounting placed under it, and an attaching bolt with lock-nut already threaded on is slipped through the mounting hole into the mount. The bolt is turned down until it has bottomed. After each mounting foot is supported in this manner, each bolt is turned down just enough to level the machine, and the lock nuts tightened. The job is done.

For removal the machine can be simply lifted and moved. The new mountings aren't attached to the floor. Machines can be moved to the repair shop instead of forcing the repair shop to come to them. Production is not slowed up. Machines can be moved about easily

* The manufacturer's name may be obtained from the Editor.

Machine Mounting Can...



1. Be simple and fast.

2. Reduce noise and vibration.

3. Protect machines and floors.

4. And keep machines readily movable.

Cross-sections of mounting leveled (bottom) and open (top) show ease of installation.

and can serve a useful life no matter what changes are made in plant layout, instead of standing idly rooted to the spot when a change is carried out.

Machines with the new mountings don't injure the floor, so they can be used in space otherwise unusable. The location of machines is unaffected by pipes, reinforcing rods, and other objects buried in the floor. Since the mountings isolate vibration by absorbing shock, they protect the machine from its own vibrations and the floor as well. Though the machines are not bolted to the floor with the mounts, "floor walking" of machines is reported to be eliminated. The shock being isolated, the machines don't move. Not only are machines protected from vibration, but closer tolerances can be machined, fewer pieces of work are rejected, fewer adjustments are necessary and production speeds up in quantity and quality under these conditions.

One major feature of the mountings is that they eliminate much of the machinery noise. Since they absorb vibration, which produces noise, they cut down noise in an important way. Better working conditions, fewer accidents, and better communication are possible. High-speed machinery can be located in places in which it could not normally be used, such as next to offices. Delicate gauging operations can be performed right next to stamping machines.

Maintenance, of course, benefits greatly by the mobility, lack of noise, and floor protection afforded with mountings of this type. Work is easier, less time-consuming, and less often required for the maintenance crew.

A new series of the mountings permit adjustments up to one-half inch, and carry up to 4200 pounds per mount. Other types hold from 1 ounce to 12 thousand pounds per mount. The mountings are also en-

gineered to isolate all modes of vibration: horizontal, vertical and rotational.

In brief, the mountings offer industry: reduced installation and maintenance costs, machines that stay put without walking, fewer adjustments and rejects on machines, a decrease in the plant noise level, increased worker and machine productivity, and money-saving mobility for machinery.

In one dramatic test an entire line of 8 heavy machines was moved, reinstalled elsewhere in a plant, and was in full production in 24 minutes, with the aid of the mountings. A single, smaller, conventionally-mounted machine required 4 men, 33 and one-half minutes to mount and get into production.

Pictures by courtesy of the Barry Corp.

Camera & Safety

(Continued from page 13)

into a rut. I'm guilty too, and the rut I was in was emphasized recently when I went into a plant, went through it from stem to stern, and was greeted at the office by the superintendent with, "Well, what did you find wrong?" It took time, but eventually it dawned on me that as far as that superintendent was concerned, at least, I was a professional fault finder.

Safety engineers spend their lives looking for physical conditions that are wrong. Yet statistics tell us that 9 out of 10 accidents are directly the result of unsafe working habits of workmen themselves. Where on any safety inspection form do you find room for anything except recommendations to correct physical conditions? Where on a safety recommendation sheet do you see any space for a comment that "Jim Doakes was loading block-holes in a safe and sensible manner"?

The answer is that those things can't be written out. Even if you did write them out, by the time it went from management, to supervision, to the workman, its effect would too often be lost.

In the last 8 months I've been taking pictures slanted at that angle, sometimes using them for bulletins, other times as slides at meetings. The effect of this approach has been startling, and I've made into slides several of the bulletins that we used. Bear in mind that these were not printed bulletins sent out over the entire industry. These were bulletins with 5 by 7 inch print tacked on with a stapler, only one of a kind, and sent to the plant where the picture had been taken.

No Alibis

For example, a picture of a crusher feeder wearing a safety belt was captioned, "Here's one man that knows that this safety device may save his life." The picture made the safety belt an authorized piece of equipment for the job, and the crusher operator up until then had felt sheepish about wearing it. A picture showing a man doing his job correctly, particularly if it is not posed obligates him to continue to do it correctly, as he hasn't got the protective alibi that he didn't know.

A picture of a miner breaking rock with a hammer, showed his goggles on his eyes where they should be. Too many bulletins show other men and other conditions, so this one brings the wearing of goggles right to his own job. Sometimes you can pat people on the back and take a dig at the same time, such as a man putting grease on a gear, which was captioned, "That's right. Stay away from the pinch point. But why not put a guard over?"

With a picture you can show how near to possible injury a man is when he is working. Sometimes by being a bit ridiculous you can get the idea across, as a truckdriver without a shirt. "Spurs and a ten-gallon hat are not standard equipment for truckdrivers, so be sure you don't make like a cow-boy." Think of the men in your plant, the conditions under which they work, and the kind of people they are. Think of the unsafe working habits that you know they've got. Then think of the angles you can see to approach each man, and each hazardous operation. Don't be afraid of being "corny." Some of the entertainment we see on television and in the movies certainly bears a strong resemblance to corn.

Safety men harp on foremen to use the psychological approach to get men to work safely; but they spend time on the 10 percent of accidents that are due to conditions, leaving the poor foreman, who is at best only a part-time safety man, to eliminate or control the other 90 percent. Pictures take time to make, and they cost money, but time is better spent on pictures than on writing up accident reports, and they cost less than accidents do.

I believe that every safety man should use a camera, at least for part of his inspections. It will help to get the job of controlling the 90 percent of human failure accidents done. It will enable him to give management a clearer picture of changes that are advisable for safety reasons. It will put him in the position of helping the foreman to keep his men working safely, instead of placing all of the burden on foremen alone. And from the workman's point of view, it is a painless, interesting, sometimes even enjoyable way, to be reminded of safety.

From an address delivered at the 41st National Safety Congress.

Pictures by courtesy of Laverack & Haines, Inc.

National Safety Congress

THE 42nd National Safety Congress and Exposition, will be held Oct. 18–22 in Chicago, Ill. Sessions on industrial safety are scheduled for Conrad Hilton, Congress, Morrison and La Salle hotels; traffic safety sessions at Congress hotel; commercial vehicle and transit safety sessions at La Salle hotel; farm safety sessions at Palmer House; school safety sessions at Morrison hotel, and home safety sessions at Conrad Hilton hotel. For further information write R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

In Grinding Wheel Safety . . .

SIMPLE THINGS COUNT

By GALE WHITACRE
Supervisor, Tool Grinding
The National Supply Co.,
Torrance, Calif.

PLANT safety is largely a matter of recognizing where potential dangers exist, and guarding against them. This means endeavoring to guard against the rare, "once in a million," types of accidents as well as against obvious dangers.

Everybody recognizes that a rotating saw, or a rotating grinding wheel, can be dangerous. The phrase, "never monkey with the buzz saw," has come into widespread use. However, it is less customary to think of a rotating spindle as a cause of accidents. Yet an innocent-looking spindle may be the means of catching a man's sleeve and throwing him against the saw or wheel at the opposite end. A number of serious accidents have been caused this way.

In the tool grinding section at our plant we have not had a disabling injury in more than 10 years. A large amount of machine tooling is performed, requiring the use of a wide variety of grinding tools and machines. We face a big problem in operating the tool service departments safely and efficiently. The way we check spindle and other types of accidents is the result of many safety measures and methods working together.

A large, well-lighted and well-ventilated area is provided. The floor

RIGHT—Whirling spindle is covered by metal box to keep sleeve from catching.

WRONG—Exposed spindle may pull operator into grinder by grabbing his sleeve.

layout provides adequate working space for each man, and allows for wide, uncluttered aisleways. Equipment and workbenches are kept clean. Adequate facilities for materials handling are provided. Safety rules are enforced.

One of the features that surprises visitors is the lack of dust, considering the number of grinding machines in operation. A nozzle at each machine, resembling that of a vacuum cleaner, picks up the dust. These nozzles lead to a master exhaust system that carries off the

dust, keeping the air in the section clean and healthful.

At each machine on which there is an exposed grinding wheel, a concave metal plate, about 2 feet by 3 feet, serves as a shield. These shields are painted a light color, to reflect light near the point of operation.

A simple housing encloses each grinding wheel spindle, guarding against the type of accidents mentioned earlier. Additional safeguards have been provided for the grinding wheels themselves, so that only the parts with which contact must be made are exposed. A hardened steel plate, conforming to the recess of the abrasive wheel, is attached to it below the face of the wheel. A secondary table rest, that fits closely around the abrasive wheel, covers up openings through which a tool might accidentally be dipped. Operators are required to wear safety goggles at all times when operating machinery, and other well known and generally accepted safety practices are followed.

One of the signs posted in the Tool Grinding Section says "Be Safe, Be Healthy, Be Happy." We think this is a good slogan, and feel that the simple, effective ideas we have adopted, and our close observance of safety rules, have contributed to our safety record.

Pictures by courtesy of The National Supply Co.

Checking Ladders

(Continued from page 22)

extension ladder. Probably 99 percent of all ladders used in industry, including construction, are placed with the upper, or fly, section overlapping in front of the bed section, (Fig. 5A). Yet, I have never read in any safety publication that this is the proper way to use a ladder. On the other hand, the National Fire Protection Association, the various state fire colleges, and other fire protection authorities all definitely instruct firemen to place their extension ladders with the fly section to the rear of the bed section, (Fig. 5B). They have one good point in favor of this method; there is no "missing rung" at the bottom of the overlap at which a man descending could lose his footing.

It is worthwhile to investigate the strength of the extension ladder you intend to use. With the ladder placed in the conventional manner, the brackets at the bottom of the fly section take no load, (Fig. 5A). They merely hold the ladder sections together when being transported and handled. The brackets at the top of the bed section are under strain, holding the ladder together when in use. Yet some well-known ladder manufacturers make the brackets which take the load weaker than those which take no load. With an extension ladder placed as recommended by the fire service, the load is taken by the stronger brackets. Before you use an extension ladder the next time, check up on the brackets.

Scaffold planks and wood ladders, both being made of a product of nature, are extremely variable in strength, and hence should be used with an ample margin of safety. Never subject them to excessive loading, don't spring them unnecessarily (as the deflection is not limited when a ladder is in use), but handle them with extreme care. You never can tell; you may be the next man to trust his life on the plank or ladder.

From an address delivered at the National Safety Congress.

Picture credits: upper left hand corner first page—F. F. Hauserman Co.; all others Consolidated Edison Co. of New York.

Education for Safety Needs Industry's Help

BUSINESS and industry must unite with educational and research organizations to make our factories, offices, and homes safer, according to Dr. John T. Rettaliata, president of Illinois Institute of Technology. He points out that accidental losses have been increasing steadily and adds that these increasing losses result from increased industrialization and increased use of industry's products. He listed new materials, new processes, increased use of explosive gases, and dangerous chemicals as among the causes of fires, explosions, and other accidents.

"Scholarships, endowments, and other means of support will speed the day when education can meet growing demands for an adequate supply of men trained in prevention and protection techniques. In research, business and industry must support more investigations aimed at developing new knowledge in the field. They can do this in their own laboratories, where they have them, or by sponsoring research projects at independent laboratories. The challenge is pressing because of the continuing trend toward ever greater expansion of technology and employment of technology's products. Our salvation lies in the fact that this same technology can be applied to the search for and application of adequate safeguards."

New England Meeting for Accident Prevention

A NEW safety organization, The New England Accident Prevention Association, was formed by safety leaders of the area in a 2-day meeting at Groton, Conn., early this month. The meeting was sponsored by the Maine Safety Society and the Connecticut Safety Society. Representatives of the 5 states reported figures on their industrial and vehicle accidents and delegates from various safety groups outlined the accident prevention activities of their organizations.

The purpose of the New England Accident Prevention Association is to control the wasteful toll of manpower and money taken by accidents: by bringing together the safety organizations in New England, by evaluating the accident statistics and the preventive work necessary in each state on an annual basis, by reviewing proposed legislation that would help prevent accidents, and by exchanging ideas and cooperating in the promotion of safety in the New England area.

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(For full details, use Key # S-16 on free Inquiry Card on page 75)

COATING *vs.* FIRE

3. Mastic coating is applied, not over ¼ inch thick, after priming coat is totally dry. Several coats may be applied, but 5 days should be allowed for the first coat to dry.

2. The priming coat is applied to a clean, dried surface with a spray or a roller. Surface must be primed same day as well.

1. All steel surfaces must have rust and mill scale removed by sandblasting or by wire-brushing, before priming coat is put on.

THE use of mastic coatings for steel protection has become increasingly attractive to plant engineering and maintenance departments because they are many times thicker than familiar paint films. Mastic coatings are designed to protect metal structures, equipment and piping from weather or chemical corrosion. They provide an anti-corrosive coating which may be as much as one-quarter inch thick. In contrast, normal paint systems fall within the range of 5 to 10 mils thick (a mil is one 1,000 inch).

Most mastic coatings have been based on petroleum asphalt dissolved in solvent; this combination being known in the trade as an asphalt "cutback." The basic cutback may be combined with mineral pigments, pulverized mica or asbestos fiber to form the finished mastic. Being asphaltic in nature such mastics usually lose their original qualities at temperatures below 20°F. or above 200°F.

Another serious disadvantage has been poor resistance to flamespread. When exposed to fire, the asphalt mastic coating on steel structures has been known to carry the flames away from a small fire, building it into a large fire. In some cases blazing asphalt droplets have been carried by a strong up-draft of a fire to adjacent structures, spreading the fire to new areas.

These asphaltic cutback mastics burn fiercely and continuously when tested on a larger scale by a method which has been correlated with actual field fire exposures. Until recently, no mastic manufacturer had been able to offer, at a reasonable price, a product, which could be classified as anything but combustible by Underwriters' Laboratories.

There is now commercially available a new mastic coating which has been tested and listed by Underwriters' Laboratories. A one-eighth

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SAFETY—SERVICE AND STYLE

NEOPRENE COMPOSITION
A standard of quality

14 & 18 Iron—Blk-Brown

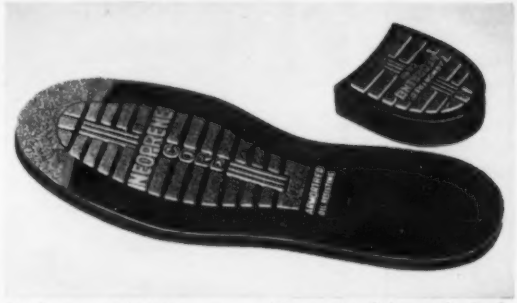
The largest selling sole of its kind

NEOPRENE CORK-GRIP
It's light—yet rugged

15-18-21-Irons—Blk and Brown

A soft flexible step with day-long comfort

NEOPRENE CORD
It's new—it's colorful



14 Iron—Blk-Brown—with and without Labels

A safe-sure step and tough long wear

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ARMORTRED Soles made with DUPONT NEOPRENE

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FOR—PEAK PROTECTION AGAINST HEAT, OILS, SOLVENTS ETC.
FOR—EXTRA MILES OF SAFE SERVICE

MANUFACTURED AND DISTRIBUTED BY **QUABAUG RUBBER COMPANY** NORTH BROOKFIELD, MASSACHUSETTS

(For full details, use Key # S-17 on free Inquiry Card on page 75)

inch thick coat of this mastic on corrugated steel has been classified by the laboratories for flame-spread in the range of 55 to 85 (combustible rating is 100). On asbestos-cement board a one-eighth inch coating of this mastic is classified at 25 to 30. On the basis of this classification the product has been accepted for listing by the Underwriters' Laboratories . . . and the product now bears the familiar "UL" label.*

The new mastic does not contain asphalt, nor is it based on chlorinated polymers. Its composition is the subject of pending patents. An outstanding feature is that the mastic, if subjected to fire exposure, will not melt, run, drip or sag. When fire actually hits it, the mastic merely swells slightly, does not flake or chip off. Its heat limitation is: constant service temperature, 200°F., intermittent, 250°F.

In addition to its fire-resistive qualities, the mastic possesses outstanding stability to prolonged temperatures in the range of minus 20°F. to 200°F. It also shows excellent resistance to deterioration by weather and corrosive chemicals. After a thousand hours exposure in an artificial weathering apparatus, steel panels spray-coated with a one-eighth inch coat have shown no deterioration other than surface discoloration. After 720 hours in a salt fog cabinet, steel panels coated with one-eighth inch of mastic have shown no corrosion. This compound is also an excellent moisture vapor barrier, a feature of great value in protecting the thermal insulation on low temperature applications.

Other Qualities and Uses

It is dark brown in color, and can be successfully painted over with any flexible paint, with no discoloration or bleeding of the paint coats. A variation, having metallic aluminum pigmentation, provides a pleasing silvery appearance as well as a good light-reflective factor.

In addition to the recognized value as a protective coating for metal and thermal insulation, the mastic is also of interest for fire-resistive metal roof construction; for fire-protection of creosoted timber construction, such as bridges, trestles, railroad car and truck-trailer under-bodies; for fire resistive mine stopping; as a fire-resistive coating over certain fire-retardant paints which require protection from weather exposure and as a fire resistive finish over the cement fireproofing treatment on structural steel supports exposed to the weather.

Mastics save money . . . because of the full thickness obtained in one or two coats . . . labor cost for application is substantially lower per mil thickness. It is not unusual for mastic coated steel to remain well protected for 10 years or longer . . . thereby drastically reducing maintenance costs.

Pictures by courtesy of Benjamin Foster Co.

* The name and address of the manufacturer of the mastic coating may be obtained on inquiry to the Editor.

"SAFETY MAINTENANCE" Salutes a Safety Idea

Take-It-or-Leave-It Pallets

LOADING a 30-ton freight car with 50-pound paper bags of feed, without pallets, in 90 minutes flat, in 30 round trips to the baggers, is an easy job—if you know how. This materials handling feat is being accomplished by Honeggers' & Co., Inc., which has built an entire new mill and warehouse around the handling system.

The system was developed so that materials could be palletized in and around the mill and warehouse, without having to ship the pallets or de-palletize the loads in the cars. The secret lies in take-it-or-leave-it pallets and highly waxed forks. The pallets are so constructed that the forks can be inserted either under the pallet, as is customary, or directly under the load to lift the load off the pallet and leave the pallet behind. The forks are kept waxed and polished so that when a palletless load is lowered to rest on another surface, such as the floor of a car, or the top of another stack, the forks will slip out easily from under the load.

As soon as the feed bags are filled, they are palletized, 40 to a pallet, taken to the warehouse by forktrucks, and stacked in double tiers. Before shipping, the palletloads are taken from the warehouse and the bags are lifted off the pallets by the fork trucks. The bags, without the pallet, are then carried into the freight car, usually a distance of 150 to 300 feet.

Inside the car, the bags are stacked in the usual manner. As that portion of the load between the forks is set down, the weight is sufficient to hold the load in place while the waxed forkers are withdrawn. One fork-truck operator can load 24 tons in an average time of 1 hour. The remaining 6 tons are stacked into the doorway by hand, the operator and checker accomplishing this in approximately one-half hour, making a total of 90 minutes for the entire operation.

Picture by courtesy of Towmotor Corp.

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Westinghouse PRECIPITRON is the most efficient air cleaner on the market today . . . removes 90% or more of all the airborne dust, dirt and smoke that hamper industrial operations. Applied to your own operation, PRECIPITRON means (1) peak output through fewer rejects, greater control of product quality . . . (2) dollars saved on plant and machinery maintenance, servicing of dirt-sensitive equipment . . . (3) less employee absenteeism because of the cleaner, more healthful atmosphere.

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Cleaner air means greater profits for you, better working conditions for employees. Let Westinghouse air cleaning experts show you how easily PRECIPITRON can bring these benefits to your plant. Contact your nearest Westinghouse-Sturtevant office or write: Westinghouse Electric Corp., Sturtevant Division, Hyde Park, Boston 36, Mass.

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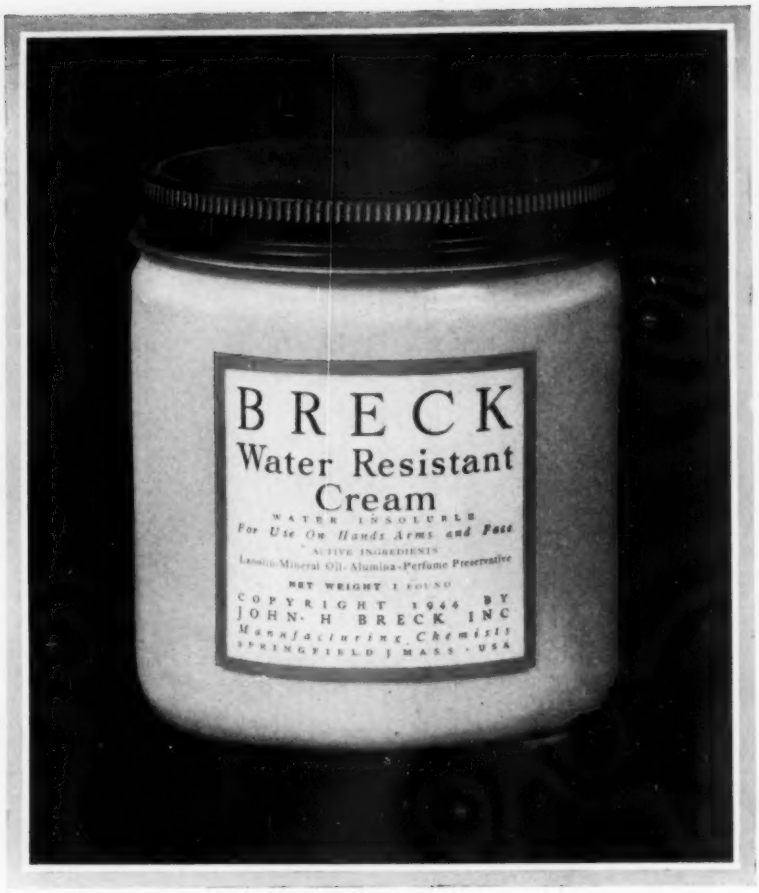

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Industrial Hygiene

Associate Editor
Jacob A. Goldberg, A.M., Ph.D.

Psychological Needs of Workers

TO IMPROVE relations with employees and thereby aid productivity, industry and business have been urged to devote more attention to the psychological needs of their employees.

"No matter how thorough is the mechanical training of an employee, nor how powerful or intricate is his machine, the mental attitude and adjustment of the individual employee will in the final analysis determine how well the job is done."

This was the contention of George W. Kenning, executive director of the management relations division of Kelly-Read & Co., Inc., Rochester, N. Y. personnel development specialists. Mr. Kenning, who for the past 15 years was an operating executive in the field of personnel management and development for General Motors, spoke at the "How To Work With People" Conference held in Buffalo, N. Y.

The lathe operator, the riveter or the typist is motivated by more than the material needs of food, shelter, clothing and sex, Mr. Kenning said.

"As a rational human being he has significant mental needs underlying his behavior, such as security, attainment, attention and status," the personnel authority pointed out.

Recognition of the importance of these psychological drives of employees led to the research and development of the "specific human relations technique."

The new technique transforms psychology's well-founded "need concept" into a practical, on-the-job tool. The "need concept," as explained by Mr. Kenning, maintains that every individual possesses certain fixed, basic needs—with each need varying in intensity from person to person. Utilizing 50 case studies of actual persons, Mr. Kenning told his audience how they could recognize these ten principal needs that can be satisfied on the job: assurance, attention, ownership, acceptance, status, association, assignment, integrity, attainment and relationship.

One case cited by Mr. Kenning concerned an employee in a factory who always was disappearing from the tool crib where he was assigned. This man was generally found talking with people in other departments. His employers were thoroughly disgusted with his disappearances and were about to fire him.

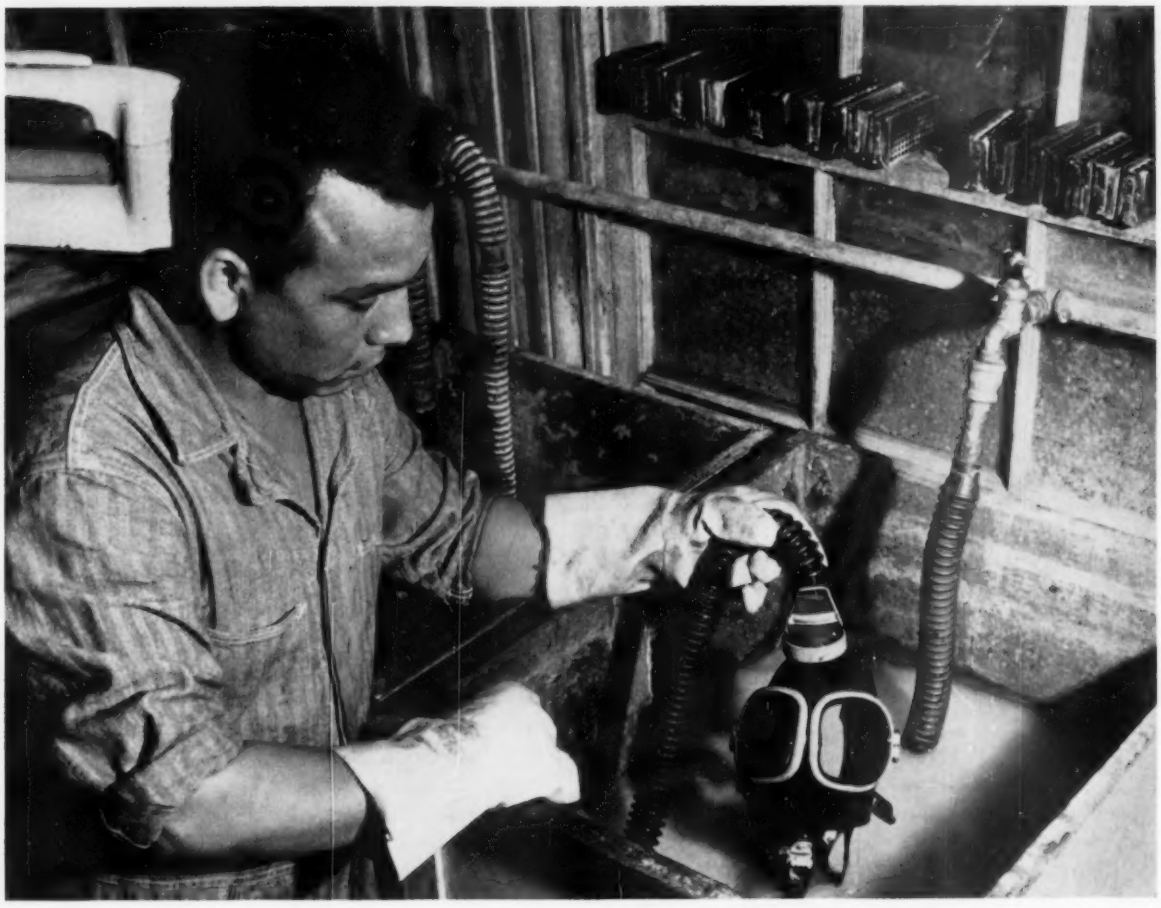
But someone who recognized this man's heavy need for associating with people arranged for his transfer to an assembly line operation, where he could be in close contact with other employees. It worked. The man, who almost was fired, proved to be a highly efficient group worker.

Another case told of a factory worker, being considered for a job, whose record showed he drifted from job to job. This would seem to indicate he was a "floater" and could not be relied upon. Normally, the man would not be hired.

But investigation showed that the man had been a good family provider over the years, and was a competent workman. But he was seldom given assurance about the future. Because he was concerned about providing for his family, his heavy need for assurance was not satisfied, so he changed jobs, always seeking a better opportunity for security.

Utilizing the "need concept," the prospective employer, who recognized the man's ability, told him that the job was steady and offered real opportunity for advancement. The man was hired, and did a fine job.

"Just as in these case histories," Mr. Kenning concluded, "all employees are individuals with individual problems, and they must be handled in an individual manner."



Two safety inspectors, equipped with scooters, make on-the-spot adjustments, and also inspect equipment for complete usability.

If you want employees to use protective equipment . . .

KEEP IT

PERSONAL hygiene is not simply a matter of keeping yourself clean. You must keep your equipment, the things you use and touch, clean as well. Dermatitis, especially in industry, is sometimes the result of contact with some piece of personal protective equipment. The equipment may be perfectly effective in combating the hazard for which it is designed, but it may itself cause infection if not kept clean. For example, a pair of gloves may keep a worker from developing a case of skin irritation from contact with cutting-oil; but, if they are not kept clean, they can easily produce similar irritation themselves which may result in dermatitis. Remember, just plain dirt and sweat can be a big factor in skin irritation.

Care, cleaning and sanitation of personal protective equipment can become a big-time operation. Take the case of the safety warehouse for the Humble Oil & Refining Company. Warehousemen receive and issue some

When it's "wash day" at the refinery, it may mean that gloves and gas masks are being dried for reassembling and reissue.

LEFT—Warehouseman fully washes protective equipment. This is the first step in preparing personal protective equipment for reissue, checking spread of skin and other diseases.

FEATURE

Second article of a feature series on Personal Hygiene. The next article will appear in July.

CLEAN!

After drying, personal protective equipment is thoroughly inspected, both for cleanliness and effectiveness as protection against hazards.

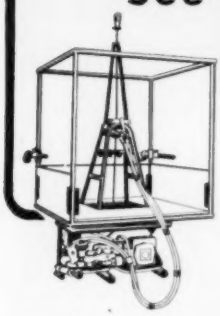
175,000 pieces of safety equipment each year.

In order that the personal protective equipment can provide needed protection for employees, it is serviced and maintained in good condition by warehousemen. All equipment issued on a temporary basis is thoroughly cleaned, dried, inspected, reassembled and stored for future use. Thus, employees are assured that not only is equipment available when needed, but is also clean and effective.

Mask has now been disassembled, washed, dried, inspected and reassembled. It is now ready to be reissued to worker—safe and clean for his use with complete confidence in it.

Pictures by courtesy of Humble Oil and Refining Company.

See the ALBINA



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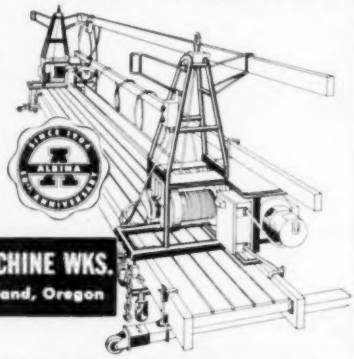

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The Industrial Nurse

Editor
Rosamond J. Webster
R.N., A.M., Ph.D.

Cost of Absenteeism

THE failure of a regular employee to report for work represents much more than a loss of wages to the individual concerned. It certainly, as a rule, involves a direct loss to the employer. Where the percentage of absenteeism is high, the loss may be shared by fellow employees who may have to be laid off because of the break in the chain of production. These are common situations with which most industrial nurses are familiar.

The attempt to measure the true loss to an industry due to absenteeism may involve complicated bookkeeping procedures. A current report indicates that in 1953 the absentee rate in one of the largest industrial enterprises ran at 5 percent. Moneywise this is estimated to have cost the company about 50 million dollars, and cost the sick, lame or lazy employees who absented themselves a like sum. These large sums have of course called for some definite action. Two-day sessions for plant medical personnel, safety personnel and management representatives have been organized. The immediate objective is to develop plans which will lower the absentee rate from 5 percent to 3 percent.

The program starts out by requiring foremen to keep a monthly record of absenteeism in their work groups. Then they are taught how to encourage good attendance. More than merely keeping records, the supervisors are taught to emphasize the fact that the absent workers were missed. Finally, foremen are held accountable for the regular on-time performance of their work groups. This is one method to lower absenteeism and raise the attendance record. Industrial nurses should cooperate, and there are other methods they can promote and even initiate. Whatever best serves the interests of a business usually helps to provide regularity of employment and stability for all concerned. Individual industrial nurses as well as production workers have a direct interest in this problem.

Standing the Strain

VARIOUS individuals in industry react in different ways to extremes in speed, temperature, humidity, noise, strong light, vibration, weight handling, strong odors, dust inhalation, and other exposures common in

industrial processes. It is evidently quite difficult to plan any program of preemployment examinations psychological or other tests, except perhaps finger dexterity and weight lifting, to determine ability to stand severe strains or stresses inherent in many occupations.

The physician in industry can usually spot various physical defects which may militate against successful fulfillment of specific job requirements. It is a little more difficult to appraise various personality and psychological weaknesses without considerable experience and effort. A physician of some experience rightly points out that the physician in industry, to be really effective, must have a thorough knowledge of the various stresses inherent in certain jobs, whether they involve administration, supervision, or production. The high-strung boss can fly off the handle as readily, if not more so, than the production worker. We all have our breaking points, though not many of us reach that stage because of selection, choice, determination or the exercise of simple common sense.

Where does the industrial nurse come into the picture? A large group of these nurses, in a recent meeting were quite alert to many strain possibilities that might bring on work stoppage, resignation from the job, absenteeism, complaints of a psychosomatic nature, and even a high accident rate. There is not much they can do, unless backed by management in a concerted attempt to get at basic problems in the working environment. The nurse's job is largely that of explanation, education, and advice. It remains for management, plant and safety engineers to deal with other matters for which they are professionally equipped.

Criteria for Retirement

THIS is the title of a new book covering the report of a national conference on retirement of older workers. Many problems are discussed and guidelines provided. For instance, it is pointed out that cessation of remunerative activity is not the only way in which retirement may affect a worker's health. The reduction in income ordinarily accompanying retirement by curtailing the amount of money available for food, housing and medical care may have far-reaching implications for his health and well-being.

Those who have worked in an industry which has provided them with medical services usually lose the benefit of those services on retiring. In most industries participation in group health insurance normally ends on retirement. The replacing of such insurance by individual medical or hospitalization insurance policies is extremely difficult for old people, for the high cost puts it beyond the reach of most retired persons. Available data indicate that 85 to 90 percent of the aged have no kind of hospitalization insurance, even the most limited in scope. The loss of medical insurance and the high cost of private medical services may lead many retired workers to do without the medical care they need. Yet

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Hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration* into tough, lightweight steel plate give ALGRIP a "grinding-wheel" grain surface that never wears smooth since hard use only exposes new gripping particles . . . an exclusive ALGRIP feature.

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it is among the aged, and especially among those with small incomes that the most sickness and disability occur.

A problem all workers must face as they attain the sixth and seventh decades of life is that of mental, emotional and economic adjustment to future retirement. This is not an easy task for many. The shock may be severe if plans have not been formulated to meet the challenges of the new way of life. It is in this area that the personnel of the medical department can help by distributing suitable literature, holding group and individual conferences, and generally advising on problems which workers do not know how to meet of their own accord and with their own knowledge.

Health Education

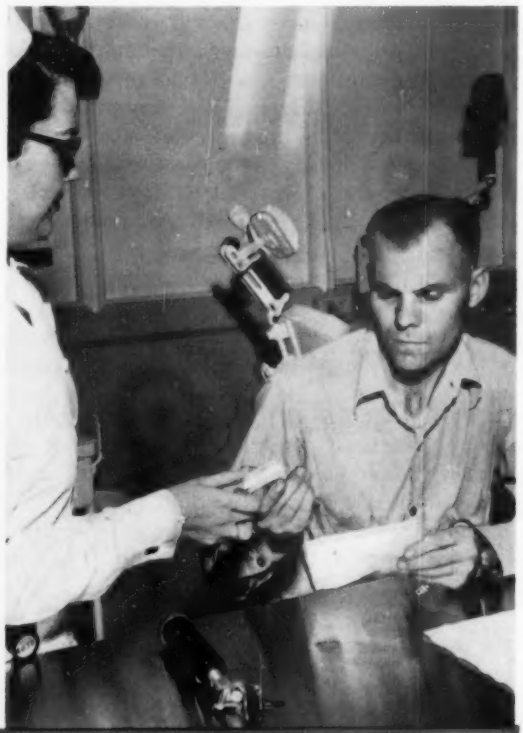
IN EXTENDED and continued education in safety, nutrition and general health maintenance lies the possibility of building up a healthy labor force. The available supply of labor tends to be older. Shortage of an adequate labor supply may necessitate altered standards in retirement age.

Where there are environmental hazards such as temperature extremes, fumes, gases, dusts and various poisonous substances, the workers must be educated to these hazards, to the proper use of protective devices and protective clothing, to the necessity of reporting to the medical department as soon as ill-health becomes evident, to early attention to accidental injuries and illnesses that become evident at home. All of these matters about which industrial nurses are informed need to be stressed in a continuing health education program in industry.

It may be found desirable to print specific health and safety information in house organs; to distribute literature made available by insurance companies, state and local health departments, tuberculosis and health associations, and other national health organizations. This is a continuing job, but it pays good dividends in the long run.

The problem of industrial noise, a potential hazard to the safety and health of workers, is being attacked on many fronts. Engineers are attempting to reduce noise at the source and personal protective equipment for workers is being produced and improved by safety equipment manufacturers. The Solar Aircraft Company uses a soft rubber unit, inserted in the ear, which keeps out harmful noise but permits speech to be heard. Once the individual size is determined by the nurse or doctor, the unit is issued to each employee (see picture at right) engaged in noisy work. The unit is contained in a small carrying case and requires no maintenance other than an occasional washing by the employee. The employee in the picture below is protected by his unit against the screech of the band saw cutting through the stainless steel sheet.

Pictures by courtesy of Mine Safety Appliances Co.



(Continued from page 16)

tions of cleaning and polishing into one. This can be done with a solution containing both a mild neutral cleaner and a highly diluted non-slip polish. As the solution is mopped on the floor, it loosens and carries off the dirt, and at the same time deposits a thin film of non-slip polish in the pores (the only place it can get a foothold). The floors can then be buffed. Rinsing is not necessary when using such a product. Polishes intended for resilient floors should not be used on hard surface floors, because they will cause slipperiness.

The cleanser used on a marble, tile, or terrazzo floor should be mild and free of alkalines and acids. The former leave salts that crystallize in the pores of the floor and crumble it. Soaps should be avoided as the hard surface underneath makes these floors particularly slippery, if even the slightest trace of soap remains. Rinsing should always be thorough when soap is used.

A method of protecting the porous hard surface floor is to clean thoroughly, then apply a seal specially formulated for this purpose. It should be applied heavily and allowed to "soak in" for a few minutes. When the surplus is removed by wiping off with a mop, the pores of the floor will be filled. When the seal has dried the floor should be buffed to force into it any residue that remains on the surface. The floor may then be maintained easily and will always look good. Cost-wise—the time of men with machines and the price of materials—the investment in the polishing operation may not be too large.

Now, however, comes a time to watch out. Remember that long, expensive stripping operation? It will be necessary again if you don't protect the shiny finish now on the floors. The longer you can put it off, the more money you save.

So we enter the last phase of floor care—the regular upkeep of resilient floors. Keep them clean. If the floors get dirty they will get slippery. And dirt that's on a polished surface will eventually become embedded in the floor itself. Even "energetic" cleaning may not be enough. In all buildings there is a fine deposit of soot and silt that can't be removed by sweeping with a broom. If left on the floor, it will be walked or buffed into the polish. This dirt-blackened polish piles up in unsightly accumulations that produce the black streaks and dirty borders often seen. When that happens, all the polish must be stripped off the floor and the operation begun all over again.

One simple corrective measure is to damp-sweep all floors regularly. This involves wrapping a dampened cloth around a hair push broom, and pushing the broom in long, straight sweeps until the entire area has been gone over. The dampened cloth picks up all soot and silt. The result is a thoroughly clean floor.

There are damp sweep tools with cloths available that make it unnecessary to move furniture, etc. during the cleaning operation. These can save many labor hours spent in moving and replacing furniture. A similar ef-

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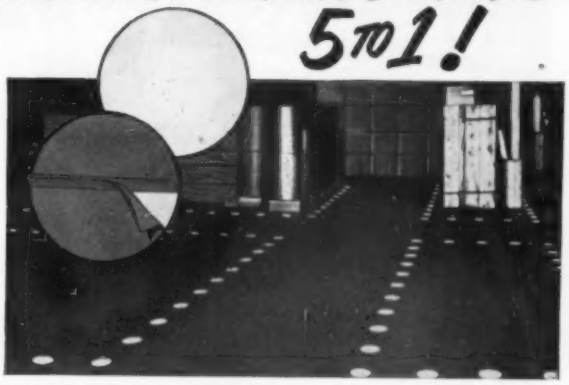

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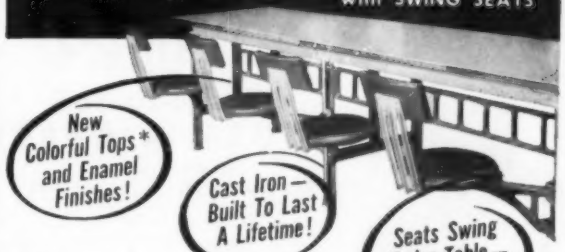

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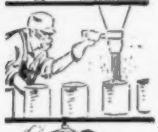

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In factory, store, feed mill, etc., these masks offer excellent protection against over 400 dusts such as wood, coal, grains, rust, paper, insect powders, etc.

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fect can be achieved with a mop, dipped in cold water and thoroughly wrung out before being used on the floor. For additional cleaning action, a cleaning solution or a small amount of non-slip polish put in the cold water, will allow the mop to deposit a moderate amount of solution on the floor. The mop need never be sopping wet. When the floor is clean, the excess water can be picked up with a wrung-out mop.

Here's a safety tip: Don't let maintenance workers wring out mops with their hands. Insist on their using mechanical wringers. Too many cuts and punctures come from staples, pins and splinters entangled in the mop.

In addition to sweeping and mopping, it's occasionally necessary to buff floors again to restore their full sheen. This should never be done until the floors have first been thoroughly damp-swept or damp-mopped to remove soot, dirt, etc.

After a while you may detect spots where polish is wearing thin. The thing to do is to add more polish to restore what has been worn or washed away. After some experience, you can usually determine a schedule that will renew the polish as it wears. The polish can be applied to the floor in diluted solutions (if it's a water-emulsion polish) in a cycle of every two weeks, every month . . . whatever is necessary for the traffic conditions in the building. If the polish surface is effectively cleaned and properly renewed as it wears, the need for a stripping job can be forestalled for months . . . sometimes for years.

Eventually, however, floors will have to be stripped. However, if you've used a good, wear-resistant polish, any dirt or stains will be held on the polish film . . . and will not have penetrated to the floor itself. It is then fairly easy to strip off the old polish while, underneath, your floor is still well-preserved. You will have saved a lot of time and money, without sacrificing your floors. Don't hesitate, either, to strip a floor if it's slippery or dirty. Don't perpetuate the trouble. It's better to get the polish off the floor and find out why it got that way . . . whether you used the right materials or the right methods.

If you keep at floor maintenance properly, you'll be repaid with continuously safe floors that are always in good condition . . . and on which there is practically no depreciation. The mere fact that you've set up a clearly defined safety-and-upkeep program will protect you against sudden spurts in accident rates . . . or the unexpected need to replace a floor. Here's where safety and economy go hand-in-hand.

We all know how expensive accidents can be. Yet, surprisingly, the safe way doesn't have to be the expensive way. With a little common sense and attention, floor care need cost very little. Consult a qualified Floor Safety Engineer. He will assist you with your specific problems and prove to be a pillar of strength upon which you can lean for efficient Maintenance and Safety.

Picture credits: (center) Hild Floor Machine Co.; and (right) Eagle Picher Co.

First Maintenance Show For West Coast

CONCURRENT with the West's first Plant Maintenance Show to be held in the Pan Pacific Auditorium, Los Angeles, July 13–14–15, will be a Plant Maintenance Conference. The conference will be under the direction of L. C. Morrow.

Importance Grows

Referring to the value of the Plant Maintenance Show, and the conference, Mr. Morrow says: "Plant maintenance continues to grow both in importance and in the number of people engaged. These growths are attributable to several factors: The continuing movement from slow-speed to high-speed production equipment. The continuing movement from man-controlled to automatically-controlled production equipment. Increased per-hour cost of productive labor. Increased cost of production equipment. Replacement costs of production equipment are the highest they have ever been. Increasing ratio of maintenance employees to production employees."

All-Embracing

Plant maintenance, under present-day standards, embraces every activity that keeps a plant operating efficiently, authorities agree. In the July show, exhibits and discussions will cover sanitation, replacement of parts, preservation of facilities and equipment, safety devices and measures, painting, polishing, waxing, industrial design, and supplies of every sort which do not actually become a part of the finished product. The Plant Maintenance Show is aimed at industrial efficiency—in the broadest sense—for every type of manufacturing operation, large or small. Products, equipment and supplies—and methods—that have an effect on lowering production costs will all be included in the show.

Accident rate too high?—

Want to **do something** about it?—

As easy as taking a drink of water!

Right! Because the National Safety Council has confirmed that safety messages *that get read* (like the one on the crisp clean AJAX Cup this worker is using) definitely do help reduce accidents And *you know* how important that is to efficiency, operating costs, and worker morale. So . . .

Why don't you use AJAX Cups to put your safety messages right in your worker's hand — where he'll see them several times a day, at moments when he is relaxed, receptive, ready to read? And he'll really appreciate the comfort, convenience and complete sanitation of these easy-to-drink-from AJAX Cups, too.

AJAX Cups — one-piece, wedge-shaped, easy to hold and drink from; in 4, 6, and 7 oz. sizes; packed imprinted with assorted stock safety messages or your own message to order.

AERO Cups — for those who prefer a flat-bottom cup; in 3, 4, 5 and 6 oz. sizes. Also available imprinted with assorted stock safety messages or your own message to order.

IT'S WORTH KNOWING

Absenteeism costs money — about $56 per employee per year, according to figures compiled by the Insurance Economics Survey.

AJAX and AERO Cups help cut absenteeism because they reduce the hazard of transmitted infections, such as the common cold, help keep your workers healthier, happier, more comfortable.

GET THE FULL STORY

Write us today for this new folder which gives full details on imprinted AJAX and AERO Cups and equipment.

United States Envelope Company

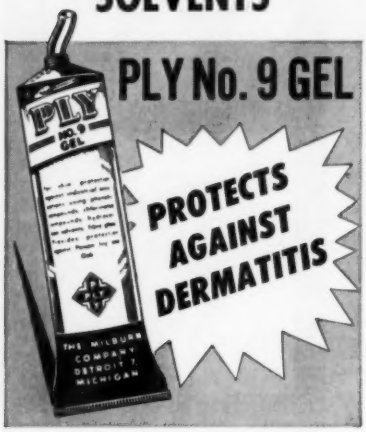
General Offices: • Springfield 2, Mass.

15 DIVISIONS FROM COAST TO COAST

(For full details, use Key # S-27 on free Inquiry Card on page 75)

C3-5

IF YOUR EXPOSURE IS HIGHLY IRRITATING SOLVENTS



It's a proven fact. Actual tests show Ply No. 9 Gel effective against chemicals causing dread Dermatitis.

This non-irritating gel, developed and thoroughly tested over a period of years under actual working hazards, is completely transparent, spreads easily and becomes invisible on the skin.

Ply No. 9 Gel contains the ingredient "Milbex" to prevent spotting or corroding of highly finished metals due to acid deposits from perspiration or any moisture caused by handling.

With Ply No. 9 Gel the worker no longer need fear the most commonly used resins and solvents. Whatever the hazard, Milburn has developed a specific Ply Cream to combat it.

FREE! **WRITE FOR THIS VALUABLE BOOK!**

"The Answer to Industrial Dermatitis"

SPECIFY PLYGLOV FOR 10 TIMES THE WEAR

Plyglovs can reduce your work glove costs as much as 75%—will outwear up to 10 ordinary pairs. Plastic coated to protect hands from industrial liquids.

THE MILBURN CO. PLY
DETROIT 7, MICH.
The Standard of Perfection in Protection

(Use Key # S-29 on Inquiry Card on page 75)

INSIDE THE TRADE

The Day Company, Minneapolis, Minnesota, manufacturer of dust control equipment and material storing and handling equipment is expanding production facilities with the purchase of the factory building at 1153 Sixteenth Ave. S. E., Minneapolis. Mr. A. B. Osgood, President of the company, states that the new facilities will be used to manufacture equipment for their custom-built dust control systems.

Fenwal Incorporated, Ashland, Mass., manufacturer of temperature controls and fire detection equipment, announces the opening of its new Chicago district branch office. H. T. Collins is branch manager. The office is located at 549 West Washington Street, Room 704, Chicago 6.

Appointment of Arch S. Abbey as manager of the Latin-American Section, International Division, Mine Safety Appliances Company, Pittsburgh, has been announced by C. M. Donahue, vice president.

Mr. Abbey, well-known in mining and industrial activities throughout Central and South America, has been associated with Mine Safety Appliances Company since 1935. He is a native of Nebraska, and a graduate of Cornell University.

E. W. Bullard who for the past three years has been the United States Sponsor of the Turtle Club has been appointed as International Sponsor by C. R. Rustmeyer, Founder of the Organization and Safety Director of Forest Products Limited, Vancouver British Columbia.

The Turtle Club is an organization made up exclusively of men who would have been dead if it were not for the safety hard hat or cap they were wearing at the time of an accident. Membership is open to anyone whose life has been saved because they were wearing head protection.

The Graver Water Conditioning Co., 216 West 14th Street, New York, has announced the appointment of Robert J. Keating as head of its newly formed Industrial Waste Department. In this position Mr. Keating will be in charge of all Graver activity in the rapidly expanding field of waste treatment for industry.

Conrad Richard Seim has been appointed Western Representative of The Protectoseal Company, Chicago, manufacturers of safety devices for hazardous liquids, with offices and warehouse stocks in Los Angeles.

Mr. Seim is well known to many plant men and officials in the industrial districts of the West Coast where he has been active in sales work as a tool engineer and consultant. His experience will be of direct help in assisting plant men with methods and products for the safe handling of flammable liquids.

The Pennsylvania Optical Co. of Reading, Pa., manufacturer of head and eye protective equipment, has announced the opening of a branch office and warehouse at 1712 Taraval St. in San Francisco, Calif. to facilitate service to its customers in eleven western states.

Donald H. Long has been named Western Division manager; Gordon E. Hadley, Southern California representative with headquarters in Los Angeles; J. Robert Hottel, Northern California representative working out of the San Francisco office.

Wyandotte Chemicals Corp., producer of specialized cleaning products for business and industry, has begun construction of a new plant at Los Nietos, according to Robert B. Semple, president. The plant site is in Los Angeles County, 16 miles southeast of the city of Los Angeles. Production in the new plant is scheduled for August. At that time manufacturing will be discontinued at the present Wyandotte plant on College Street, Los Angeles, which has been in operation since 1950. The new plant will provide increased product outlet and improved delivery for the entire Pacific Coast area.

Ramset Fasteners, Inc., a division of Olin Industries, Inc., Cleveland, has announced the appointment of Mr. Charles H. Schminke as Field Sales Manager.

Mr. Schminke, formerly district sales manager of Lyons Metal Products, brings to Ramset 14 years of experience in the sales business, six of which were in an executive capacity.

S. R. Baker, Chairman of the Board and President of the Pyrene Manufacturing Company and its wholly owned affiliate, the C-O-Two Fire Equipment Company, has announced that the unification of the two organizations is rapidly nearing completion with the election of the directors and officers to serve for both companies during the ensuing year.

Directors are S. R. Baker of New York City, Meyer Botwinik of New Haven, M. A. Laswell of Summit, N. J., Harry Levine of Leominster, Mass., Louis Levine of Leominster, Mass., A. F. Ratzer of Chatham, N. J. and Chester Rohrlich of New York City.

Officers in addition to S. R. Baker include: F. B. Allen of Towaco, N. J., M. A.

Laswell, Louis Levine and A. F. Ratzer as Vice Presidents; Meyer Botwinik as Treasurer; B. S. MacCabe of South Orange, N. J. as Secretary; and J. R. Zalenka of Morristown, N. J. as Assistant Treasurer and Assistant Secretary.

Besides the afore-mentioned, L. E. Eckelmann of Brooklyn, N. Y. is a Vice President of Pyrene with R. F. Batch of Short Hills, N. J., and C. S. Duncan of Westfield, N. J. also being Assistant Secretaries of C-O-Two.

Ansul Chemical Company, Marinette, Wis., announces the appointment of George Brelie as Government Relations Manager, in charge of the sale of all Ansul products to the government.

Mr. Brelie, who formerly was in charge of Ansul's Fire Equipment Sales branch office in Oakland, Calif., has been with the company since 1949. He will be succeeded in Oakland by Joe Holmes, formerly Los Angeles district manager. Mr. Holmes' place in Los Angeles was assigned to Remsen Paul, who was transferred from Philadelphia. The company also announced Ed Bader, formerly with Fire Equipment sales in Chicago, will be transferred to New York in charge of contacting national accounts for all products.

The signing of a contract under which Pittsburgh Plate Glass Co. has agreed to purchase the fiber glass manufacturing facilities and other assets of the Glasfloss Division of Tilo Roofing Company, Inc., Hicksville, Long Island, New York, was announced jointly by Richard B. Tucker, executive vice president of Pittsburgh Plate Glass Co. and R. J. Tobin, president of Tilo Roofing Co., Inc. According to Mr. Tucker, purchase of the facilities of the Glasfloss Division will permit Pittsburgh Plate to broaden the scope of its fiber glass products and markets.

Paul W. Eberhardt has been re-elected president of the Fire Equipment Manufacturers Association. This is the first time in the history of the organization that a president has succeeded himself. Mr. Eberhardt has been associated with the industry for twenty-eight years and for the past nine years has served as vice-president of Walter Kidde & Company, Inc., Belleville, N. J.

The F.E.M.A., to which 90% of approved extinguishing manufacturers belong, devotes itself to maintaining quality control and establishing standards for the industry.

The Boyer-Campbell Co. has opened a new branch at Hoover and Stephens, Warren Township. It will serve north and northeast Detroit with a complete line of industrial and safety equipment. Manager of the new outlet will be George S. Mac Donald, who has been with the firm 17 years.

Specialists in Industrial Cleaning Products

One of ZORBALL'S *many uses — preventing accidents on shipping platforms*

Wyandotte ZORBALL prevents accidents at proved lowest "USE-COST"!

ZORBALL is the safest floor absorbent known! Its angular particles present a maximum anti-slip surface.

ZORBALL resists breakdown; will not cake or mud, even under heavy traffic or extremely wet conditions.

ZORBALL literally drinks up oil, grease, water, paint, ink, chemicals, other liquids.

These factors make ZORBALL more efficient, longer lasting . . . the **safest, lowest "use-cost" floor absorbent on the market!**

Mail coupon for sample and data. Do it today! *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Angeles 12, California.*

CLEANING THE WORLD

Largest manufacturers of specialized cleaning products for business and industry

Wyandotte CHEMICALS

Helpful service representatives in 138 cities in the U. S. and Canada

WYANDOTTE CHEMICALS CORPORATION
WYANDOTTE, MICHIGAN

☐ Send FREE sample and data on ZORBALL

☐ Have representative call

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

(For full details, use Key # S-30 on free Inquiry Card on page 75)

Handclasp of a friend-in-need

There's confidence in the very "feel" of the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers. The quick-acting "Squeez-Grip" fits your hand naturally like a handclasp... hangs right... carries right... works right. You're in complete command of the situation instantly... no fumbling... no fatigue.

From the non-conducting, shatterproof discharge horn to the high strength, durably finished cylinder, you get top quality construction that results in a lifetime of satisfactory service. Because of the very few working parts and corrosion resistant materials throughout, the total cost to you over the years is less than other initially lower priced makes... fire after fire, recharge after recharge, without trouble.

It's not hard to see, when you fully compare and try, why C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers are your best buy for killing flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. Sizes range all the way from 2½ to 100 pounds capacity... all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories, Armed Forces and Government Bureaus.

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting, inert gas... smothers fire instantly, leaves no after fire mess... harmless to equipment, materials and finishes... even food is still perfectly edible.

Act now for complete free information on these first-rate, sure-acting fire extinguishers. Remember fire doesn't wait ...get the facts today!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY

C-O-TWO FIRE EQUIPMENT OF CANADA, LTD. • TORONTO 8 • ONTARIO

Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

(For full details, use Key # S-31 on free Inquiry Card on page 75)

The Big Fire Hazards

LARGE-LOSS industrial fires—those that damage or destroy property worth $250,000 or more—are increasing, and large manufacturing establishments are becoming more vulnerable to fire and explosion as a result of their use of complex and hazardous processes, according to Mathew M. Braidech, research director of the National Board of Fire Underwriters.

He declared that big industrial fires accounted for one-fourth of last year's record-breaking billion dollar fire losses in the United States and Canada and that the losses resulting from such fires were up 50 per cent over 1952.

Speaking at the Greater New York Safety Council, Mr. Braidech urged that more thorough consideration be given the engineering elements of fire and explosion safety in plant design, operation and maintenance.

"Modern large-scale industrial expansion has brought about many new complex operations and hazardous processes," he declared.

New Materials & Larger Size Increase Hazards

In many cases, he said, the changes in processing methods have been primarily one of magnitude, with larger equipment handling larger quantities of flammable liquids, combustible solids and gasses under a wide variety of operating conditions. On the other hand, the increasing use of highly reactive chemicals and the use of new construction materials, replacing many items previously made of noncombustible materials, are bringing new fire problems into play.

"The unbelievably rapid destruction of the General Motors' noncombustible plant, producing noncombustible automotive transmission units, accentuated a growing interest in industrial fire prevention and protection," he said, adding that the severity of that record-breaking loss had helped to promote a fuller realization of the necessity of built-in fire safety and had given strong emphasis to the important role of fire protection engineering in all industrial construction and manufacturing facilities.

Five Factors

The five general considerations regarding buildings, their contents and services, process layouts and safeguards that should serve to provide proper guidance for effective fire protection engineering design, Mr. Braidech said, are:

1. The fire and explosion vulnerability of buildings and process areas.

2. The character of industrial buildings.

3. The general arrangement of manufacture.

4. The segregation of critically important processing areas and hazardous operation.

5. The need for full consideration at the blueprint stage of all unit process elements, their material supply and required utility services, and other functional plant factors having a bearing on design from a fire-safe manufacturing standpoint.

March Fire Losses

ESTIMATED fire losses in the United States during March amounted to $84,821,000, the National Board of Fire Underwriters reports.

According to Lewis A. Vincent, NBFU's general manager, this $84,821,000 loss represents an increase of 1.6 per cent over losses of $83,471,000 reported for March, 1953, and an increase of 7.5 per cent over losses of $78,928,000 for last February (1954).

Losses for the first three months of 1954 now total $250,242,000 an increase of 7.5 per cent over the first three months of 1953, when they amounted to $232,836,000. These estimated insured losses include an allowance for uninsured and unreported losses.

Dry Chemical Controls Explosive Dusts

COMBUSTIBLE dusts are among the most serious fire and explosion hazards found in some industries—and also among the most baffling. Severe dust conditions have caused so many serious fires and explosions in grain elevators, starch plants, candy factories, bakeries, wood finishing plants, and coal pulverizing locations that fire engineers of the Ansul Chemical Company recently conducted extensive fire protection tests with combustible dusts in an effort to learn more about this peculiar hazard.

Utilizing dry chemical fire equipment, the engineers learned that

"Fire-Chief Finished"

WELDING CURTAINS—SALVAGE COVERS

to confine the welding operation to a given area

used to protect machinery, and other equipment from water, dust and snow.

MADE OF CANVAS

impregnated with Hooper's Fire Chief treatment under their patent which carries the Underwriters' Laboratory seal.

A. Smith & Son Inc.

Established Eighteen Hundred Sixty-Seven

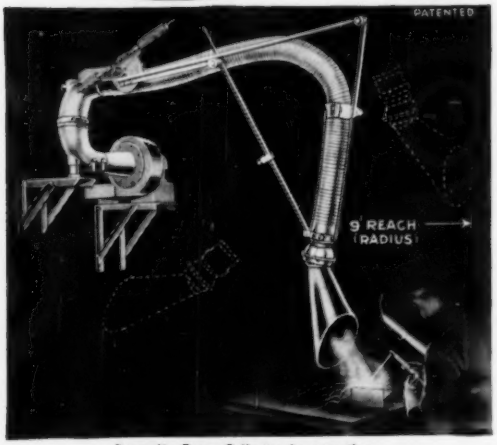
MANUFACTURERS OF REEVES STRETCHER

Ridge Ave. at Green — Philadelphia 23

"If It's Made of Canvas, We Make It"

(For full details, use Key # S-32 on free Inquiry Card on page 75)

"It certainly is a relief to have fumes and heat removed while I'm welding. The Ruemelin Collector has great suction. It makes a day's work pleasanter!"



Ruemelin Fume Collector in operation.

Welding shops equipped with Ruemelin Fume Collectors are assured of a clean shop atmosphere. Noxious fumes, heat and smoke are eliminated at their source, thus improving working conditions, lessening fatigue and paving the way for increased plant production.

The Ruemelin Fume Collector hood can be instantly placed where needed anywhere in the booth welding area. No tedious adjustments necessary. Just pull the inlet hood to the welding position and you are ready to go.

Note the new spring-loaded counterbalance mechanism which makes Fume Collector much easier to handle. Ask for Bulletin 37-E illustrating this new feature.

RUEMELIN MFG. CO.

MANUFACTURERS AND ENGINEERS

SAND BLAST AND DUST COLLECTING EQUIPMENT

3892 NORTH PALMER STREET • MILWAUKEE 12, WISCONSIN, U. S. A.

(For full details, use Key # S-33 on free Inquiry Card on page 75)

considerable control of dust fires, other than metallic dusts, may be obtained by use of such equipment.

After studying the causes of combustible dust fires and explosions, fire engineers learned that most materials which burn at a moderate rate when they are in large particles burn with almost explosive rapidity when they are finely divided.

This is because the finer particles have a much greater surface area in relation to the amount of material in the particle which has to be heated to combustion temperature. When all of these surfaces are exposed to the air and a spark or other source of ignition is present, a rapid combustion occurs which builds up high pressure very quickly.

Secondary Explosions

If the dust is not suspended but is lying dormant as on a floor, roof or beam, a smoldering fire will often result. However, if the extinguishing agent used in the fire stirs the particles into a dust cloud, an explosion can result. Thus, large losses have been incurred in mills, with most of the damage due to secondary explosions caused by agitation of dust layers by the first explosion or by extinguishing streams.

The tests indicated that, to reduce damage and yet control these fires, an extinguishing agent must be used which will provide a positive, noncombustible opaque coating on the combustible dust particles apt to be involved in the fire. In addition, the agent must be able to be applied so that dust clouds are not formed, or in those cases where dust agitation is unavoidable, the extinguishing agent must be able to inert the dust cloud as it is formed.

It was found that dry chemical not only does this but also can be used for inerting dusty room interiors to reduce the explosion hazard. This is done by discharging a dry chemical extinguisher into the room so that the dry chemical settles over beams, ledges and other places where the combustible dust may settle.

Factory Mutual Laboratories re-

(Continued on page 50)

FIRE PROTECTION BLUEPRINT

By G. S. JAMISON and L. A. ALLEN
Members of the Society of
Fire Protection Engineers

MORE and more, management is looking with a critical eye at all expenses. Even programs of long standing and proved effectiveness will not escape the scrutiny of those whose duty it is to analyze all cost items. Far-sighted managements, however, will not curtail a program or department because its work seems at first glance to be expendable, but will look at the over-all picture to find out what returns they are getting for their investment dollars.

Among the many types of economic ills against which mercantile, manufacturing organizations, and cooperatives must be prepared, one of the most serious is fire. No letdown in housekeeping should be permitted, and full protection of both special hazards and common hazards such as heat, light and power should be provided to guard again this powerful and sudden-striking danger. All the various types of insurance coverages will not replace the loss suffered from a fire. Even small fires increase maintenance costs seriously.

With fire losses increasing rapidly and with national fire losses greater in 1953 than ever before, what a large cooperative has accomplished in the way of cutting down fire losses is worth attention.

Such a planned fire protection program has paid real dividends for the Cooperative Grange League Federation Exchange. This farm cooperative, operating a grain, feed and farm supply [illegible] in northeastern United States, has reduced average annual fire losses for the last 5 years to one-fourth the level of the preceding 5 years. For the year ending March 1, 1954 total fire losses were less than 1 percent of the losses sustained in the peak year of 1948, before the fire protection program went into effect.

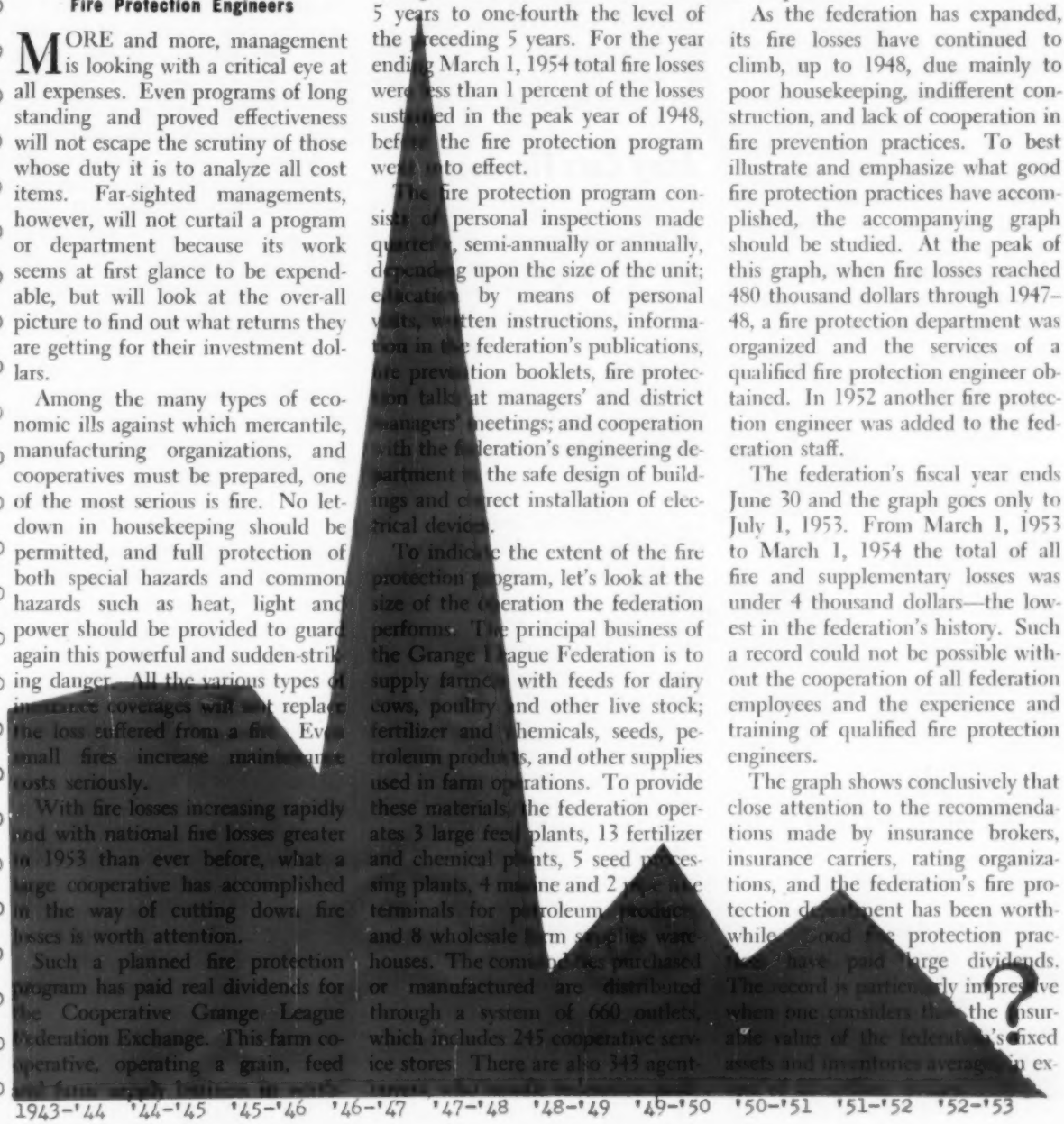
The fire protection program consists of personal inspections made quarterly, semi-annually or annually, depending upon the size of the unit; education by means of personal visits, written instructions, information in the federation's publications, fire prevention booklets, fire protection talks at managers' and district managers' meetings; and cooperation with the federation's engineering department in the safe design of buildings and correct installation of electrical devices.

To indicate the extent of the fire protection program, let's look at the size of the operation the federation performs. The principal business of the Grange League Federation is to supply farmers with feeds for dairy cows, poultry and other live stock; fertilizer and chemicals, seeds, petroleum products, and other supplies used in farm operations. To provide these materials, the federation operates 3 large feed plants, 13 fertilizer and chemical plants, 5 seed processing plants, 4 marine and 2 rail terminals for petroleum products, and 8 wholesale farm supplies warehouses. The commodities purchased or manufactured are distributed through a system of 660 outlets, which includes 245 cooperative service stores. There are also 343 agent-[illegible] ucts, and 72 federation bulk petroleum plants.

As the federation has expanded, its fire losses have continued to climb, up to 1948, due mainly to poor housekeeping, indifferent construction, and lack of cooperation in fire prevention practices. To best illustrate and emphasize what good fire protection practices have accomplished, the accompanying graph should be studied. At the peak of this graph, when fire losses reached 480 thousand dollars through 1947–48, a fire protection department was organized and the services of a qualified fire protection engineer obtained. In 1952 another fire protection engineer was added to the federation staff.

The federation's fiscal year ends June 30 and the graph goes only to July 1, 1953. From March 1, 1953 to March 1, 1954 the total of all fire and supplementary losses was under 4 thousand dollars—the lowest in the federation's history. Such a record could not be possible without the cooperation of all federation employees and the experience and training of qualified fire protection engineers.

The graph shows conclusively that close attention to the recommendations made by insurance brokers, insurance carriers, rating organizations, and the federation's fire protection department has been worthwhile. Good fire protection practices have paid large dividends. The record is particularly impressive when one considers that the insurable value of the federation's fixed assets and inventories averages in ex-



Total Losses Five Years 1943-48 - $1,147,306

Average Annual Losses - $229,460

Total Losses Five Years 1948-53 $299,274

Average Annual Losses - $59,850

G. L. F. FIRE LOSSES - TEN YEARS 1943-1953

Explosive Dusts

(Continued from page 48)

cently conducted tests comparing the effectiveness of dry chemical and talc in inerting atmospheres containing cornstarch. The dry chemical proved to be three times more effective.

A cloud of cornstarch containing only 20 percent of dry chemical would not explode, while a concentration of 60 percent of talc was required to prevent an explosion, it was reported. The study indicated that the contents of a 20-pound dry chemical extinguisher would render 4,000 cu. ft. volume inert against the hazard of a dust explosion of the greatest possible concentration of cornstarch in air. On the other hand, 20 pounds of talc would render only 1300 cu. ft. volume inert.

To determine the effect of using a dry chemical extinguisher in the presence of relatively large amounts of settled combustible dust, fire engineers spilled cornstarch over the floor of their Fire Test Building to a depth of 1 inch. After the dust was ignited, a dry chemical extinguisher was discharged into the fire. The burning starch was extinguished and no dust explosion or flashes occurred. Although a cloud of flammable dust was raised, the cloud of dry chemical was proceeding at the same rate and keeping the combustible dust cloud inerted.

Dust Control

Good housekeeping is a "must" in any location subject to combustible dust conditions, they concluded. Efficient dust collecting systems, dust-tightness of handling equipment and elimination of ledges and other collecting surfaces will do much toward the elimination of secondary dust explosions. Provision of explosion venting windows, hatches, roofs and panels will reduce the explosion damage to buildings.

Water extinguishing equipment, where necessary for complete extinguishment of combustible embers, should be of a type which will not deliver a stream of water to form a dust cloud, but should provide the water in a fine spray or fog for gentlest application to the dust.

In conclusion, dry chemical extinguishers can be used effectively for inerting dusty atmospheres and for rapid control of fires in dusty locations, even though they are primarily recognized for use on fires in flammable liquids, gases, and electrical equipment.

Army Cuts Fire Loss

FIRE losses of $1,980,976 at Army installations in the continental United States in fiscal year 1953 were the lowest since the end of World War II, according to final figures compiled by the Chief of Engineers.

The total compares with $3,831,564 in the previous fiscal year, and an average annual loss of $4,747,748 in the seven year postwar period 1946–1952.

The substantial reduction is attributed by the Chief of Engineers to a continuing program of installing automatic sprinklers, automatic fire alarm equipment, training of military and civilian personnel in fire consciousness, methods of reporting fires, and periodic fire prevention inspections by qualified personnel.

The Chief of Engineers is responsible for staff supervision of fire prevention and fire-fighting activities at all Army installations.

In terms of both frequency and monetary loss, careless use and disposal of smoking materials and matches was the leading cause of fire. It accounted for one-quarter of all the fires in 1953 fiscal year.

Fire Protection Handbook

THE 11th Edition of the NFPA Handbook of Fire Protection (Crosby-Fiske-Forster) presents in compact form, for ready reference, the essential information on fire prevention and protection that time has crystallized into good practice. It covers the protection of both life and property. It represents two-years' work on the part of the National Fire Protection Association staff with the assistance of more than 100 expert consultants.

The new edition has been completely revised from the 10th edition published in 1948 and covers many new features not found in the previous edition. There is a complete state by state summary of fire laws with information as to the subject matter covered and the enforcing agency. Similar information is also given for the Canadian provinces.

Automatic spray sprinklers, developed since the last edition, are fully described and illustrated. New dry pipe valves, water flow alarms and other automatic sprinkler devices are illustrated with diagrams showing construction and method of operation.

The chapter on Water Spray, completely rewritten, contains complete tables of discharge characteristics of each brand and model of spray (fog) nozzle.

The tables of flammable liquids and hazardous chemicals have been completely revised to include new chemicals as additional data has become available during the past five years; 496 changes and additions in tables of fire hazard properties, extinguishing methods, etc.

Interior finish materials, including various types of wallboard and other materials, are covered in detail with information as to flame spread characteristics and suitability for various uses. The latest information is presented on fire retardant treatments for wood, textiles and Christmas trees, and there are new tables on fire resistance ratings of walls, floors, roofs and columns as well as the most recent data on various building construction types.

New extinguishing agents including chlorobromomethane and other halogenated hydrocarbons are described in detail.

Tables of automatic sprinkler performance in actual fires and of the causes of fires by occupancy classification, based upon an analysis of over 50,000 fires, have been extensively revised to present an up-to-date statistical background for fire prevention measures.

Call the Ansul Man

for faster more effective fire protection

FAST, EFFECTIVE EQUIPMENT. A positive activating system puts Ansul's "Plus-Fifty" dry chemical to work immediately—no lag or delay. To insure full fire coverage, patented nozzles deliver the right kind of stream for your fire protection problem (low velocity or long range).

DEPENDABLE EQUIPMENT. Ansul extinguishers are water-tight, corrosion resistant, always ready for action, even after extreme weathering and exposure to wide temperature variations. Quality features like these make it possible for Ansul to back their equipment with a 5-year warranty.

TRAINING FOR YOUR PERSONNEL. At Marinette, Wisconsin, Ansul operates one of the largest and best equipped fire-training schools in America—to train your key protection men without cost or obligation. A trained Ansul man will also instruct your fire brigade at your plant.

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ANSUL

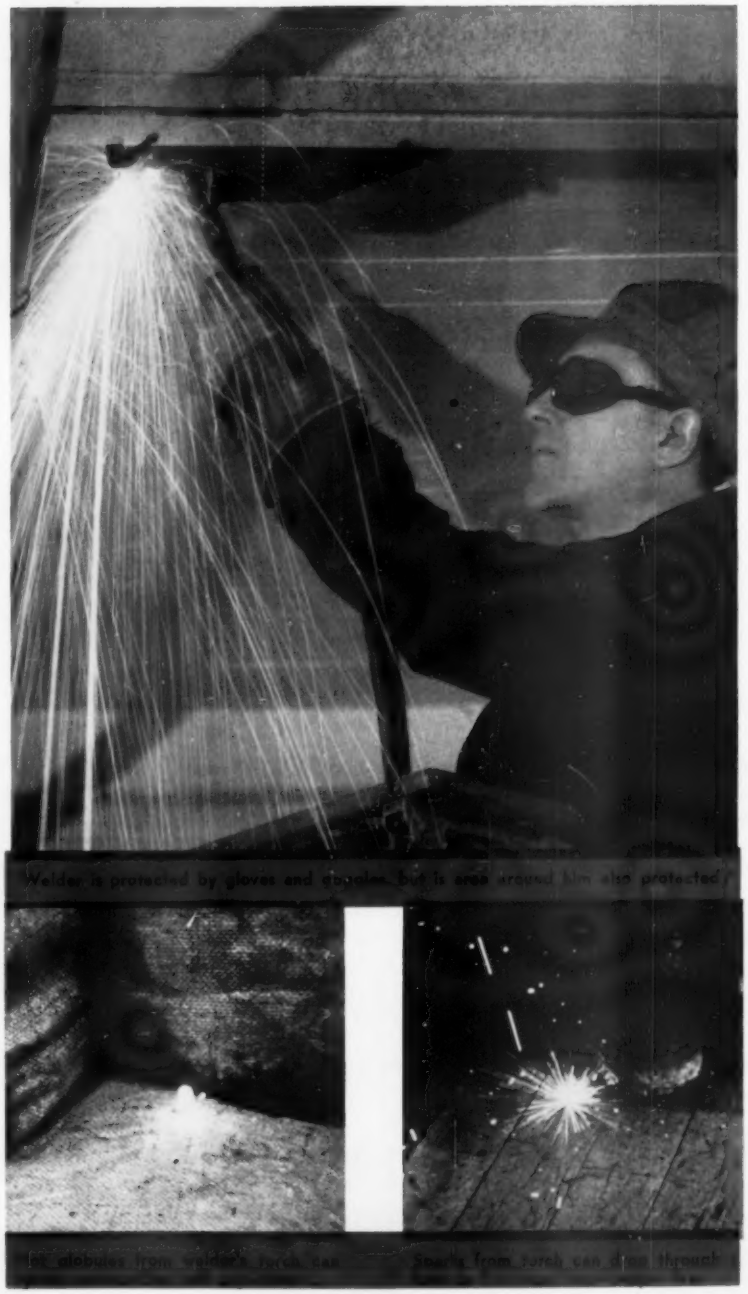
(For full details, use Key # S-34 on free Inquiry Card on page 75)

You have your welding safety rules, but what fire precautions do you take

WHEN CONTRACTORS WELD?

CONTRACTORS' welders are causing a disproportionately large number of costly fires in industrial plants. Nearly one-third of 311 cutting and welding fires reported by one group of insured properties in a recent typical year were caused by contractors. Last year, the greatest of all industrial fires was started by employees of a plumbing contractor using a cutting torch near a dip tank conveyor.

Other reports are similar, states the "Factory Mutual Record." A contractor uses a cutting torch without permission in a spray room, and ignites lacquer deposits. A spark from a contractor's cutting torch ignites sawdust soaked with solvent; a life is lost and damage is half a million dollars. Sparks from another torch ignite a wooden wall; the contractor has only a pail of water on hand for firefighting and half of a storehouse is destroyed.



Welder is protected by gloves and goggles, but is area around him also protected?

Globules from welder's torch can [illegible] Sparks from torch can drop through

Indifference and Ignorance

Most plants carefully supervise their own employees' use of cutting or welding torches. When a contractor comes in from outside with his crew of men, he may or may not be fully aware of the serious hazards involved. His men, furthermore, are likely to be indifferent to the usual plant safety regulations. The record indicates that in too many instances the necessary precautions are not taken.

Adequate safety thus becomes an important problem for plant management. Three S's—survey, specify, and supervise—might be used as a basis for attacking this problem. (1) Survey the job before engaging

a contractor, to determine the particular fire hazards and to ascertain what safeguards are necessary. (2) Specify to all contractors, sub-contractors and foremen the required fire prevention precautions. (3) Supervise the contractor's supervision of his own employees.

Strict Rules

Many industrial concerns attack the problem by issuing and enforcing a set of strict instructions to all contractors, "to prevent injury, loss or damage to personnel, equipment or property." Fire safety officials of these companies are among the growing number of industrial leaders determined not to permit disregard of fire security rules by a temporarily employed contractor to endanger employees or disrupt production.

Pictures by courtesy of Factory Mutual Engineering Division.

Safety Increases Profits

A MAJOR change in management's attitude toward safety, including plant safety to prevent on-the-job accidents and public safety to prevent mishaps occurring off-the-job, must be effected before industry can realize its "potentially greatest of all means of cost saving and profit increasing," J. Dewey Dorsett, general manager of a leading insurance association told the Maine State Safety Conference.

To attain complete success in reducing costs and increasing profits, he declared, management must also call for the cooperation of labor leadership "and to some extent perhaps of government itself" for aid in determined efforts to reduce costly accidents to a minimum.

Because safety activity generally is classed, along with management itself, under the heading of "non-productive labor" in the great majority of industrial plants, its role of cutting costs and bolstering profits is not fully appreciated. "I say without qualification," he added,

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"that the *MOST* productive labor in your plant—in any plant—*SHOULD* be the plant accident prevention staff."

Backing up this point, Mr. Dorsett cited numerous instances in which elimination or reduction of accidents on the production line by safety engineers greatly reduced costs and increased profits.

"Management learned long ago that safety is a profitable venture and the vast majority of plants make it a strict practice," he said. "As a result, plant safety has reached a point where the worker is safer at his machine than in the streets or even in his own home. That is a tribute to both the humanitarianism and the genius of American management, but . . . NO industry has even begun to tap the great reservoir of economic opportunity that awaits those who apply *FULLY* the sound principles of accident prevention to production capacity and plant safety. Industrial safety, great as its progress has been, still remains a comparatively undeveloped branch of management."

Off-the-Job Accidents Hurt Industry

Pointing out that there were "a goodly number" of employed people among the 37,000 persons killed and up to 2,000,000 injured in last year's traffic accidents, Mr. Dorsett declared "it doesn't take an Einstein to figure your percentage of potential expense that is involved in such accidents." The real economic loss from traffic and industrial accidents is actually unknown, he said, although the total is estimated at 7 billion dollars every year, including 4 billion for traffic accidents and some 3 billion for industrial accidents. These totals, he added, do not nearly represent the actual cost of accidents, including the full toll of the all-important loss to production.

"It still is a big enough figure, however, to cause every business and every industry to sit down and figure its share, most of which represents profits that could have been," Mr. Dorsett said. "There is no such thing as a business or industry that can afford to be complacent about accidents."

Mr. Dorsett declared that if management's modern interest in the safety of its employees "begins and ends at the plant gates," it has only done part of its job and has seized only part of its opportunity.

"The machine that is left idle because Joe, its operator, was injured in a traffic accident on the way to work is just as unproductive as though Joe had been injured by the machine itself," he said. "The cost of traffic accidents to industry is counted in many ways and sometimes I wonder if management is unaware of all or even most of them. The first cost, of course, is a drop in production; and if you happen to have an extra to take Joe's place, don't forget that he is also an extra cost applicable to accidents. In most instances, your compensation insurance will not be affected by Joe's traffic accident; but the accident, health, medical and hospital insurance you probably provide for your employees will be very much affected."

Regarding compensation insurance, the speaker pointed out that the injuries that are compensable and the benefits that are provided for in a workmen's compensation insurance contract are not decided by the insurance companies, but by the state legislatures, and vary from state to state. He added: "Certain industrial associations and organizations frequently let loose violent public attacks against the insurance companies, when any such attacks should be directed to the legislatures. It seems to me that if any criticism is justified, it should be directed toward the law, which fixes the benefits, and not against the insurance companies, which have no recourse but to obey the law."

Why Premiums Are High

These critics, Mr. Dorsett asserted, ignore the fact that the nationwide average of basic workmen's compensation insurance rates is lower today than it was 15 or 20 years ago, despite the fact that *benefits* are much broader and higher. "It is true that your *premium*—your insurance bill—is higher because you are paying to protect more employees than ever before in the history of the country and the *number* of accidents is similarly up," he said. "Well, doesn't that bring us right back to the remedy that is in your own individual hands? It is the same remedy that was used so effectively by one company in your own industry—the employment at small cost of modern accident measures, which invariably return handsome profits."

How Safety Pays

Among the examples of effective safety measures which stepped up production and increased profits was the introduction of an automatic feeding rack on 10 bottle cap machines in a woodworking plant. It kept operators' hands completely away from the danger zone and permitted much faster feeding, with the result that a daily loss of $625 per day in the department involved was changed to a daily profit of $9,843.73. Fulfillment of the contract for bottle caps well ahead of schedule promptly brought another contract to this plant, Mr. Dorsett said.

In another plant a machine guard costing $115 increased production 50 percent when it was introduced by a safety engineer. The device was added to the plant's other machines and resulted in a saving of $1,080 in labor cost per machine per year.

One leather company saved almost $35,000 a year in total accident costs and also cut its medical and compensation costs nearly $11,000 annually by the simple use of tried and sound accident prevention measures, according to Mr. Dorsett. This company was able to reduce its accident frequency from 28.3 accidents per 1,000,000 man-hours worked to 13.4, a reduction of more than 50 percent.

"The great remaining problem of the machine age is not employment, as labor so desperately feared some years ago; it is *ACCIDENTS*," declared Mr. Dorsett.

Learning the hard way

WHAT DO TWO WRONGS MAKE?. . . AN ACCIDENT!

AN electrician was pushing a portable scaffold when a plank from the top platform was dislodged by the movement. Down it came and fractured his skull. Two simple precautions would have avoided this accident. One would have saved his skull. The plank, of course, should have been cleated or fastened to the scaffolding so that it could not come loose. Even if it wasn't the electrician's job, he should have been thoughtful enough of his own safety to have checked the fastenings. The worst mistake he made, however, was to leave his hard hat off his head . . . for which it was made and where it belonged. Anyone, that's right . . . anyone, working around construction, scaffolding or wherever there is an overhead danger should wear a safety hat . . . even if he just wants to keep repeating accidents such as this one.

PROTECTION . . . WHERE IT COUNTS

A CARLOADER suffered an ammonia burn on his right arm, armpit and right side while changing the unloading hose to another location. Although wearing a mask and rubber gloves, the man did not have any protection for his arm and side. In addition, he failed to follow the standard procedure of draining the hose before changing its position. Apparently he was not properly instructed or he failed to heed warnings. In any case, his accident shows what many people seem to forget . . . that protective devices are excellent for the purpose for which they were designed but useless if not used or when confronted with hazards which they do not protect against. This man's gas mask protected his lungs and face admirably; it couldn't be expected to cover his body.

HOW MUCH IS ENOUGH?

A HELPER with a portable extinguisher was the only safeguard employed by an outside contractor while welding in a warehouse. Molten metal particles from the welding torch ignited nearby bundles of burlap sheets. The helper used the extinguisher on the fire, but flames quickly flashed over most of the burlap storage. Sixty-four sprinklers operated to control the blaze, which was finally extinguished by the public fire department. Fire and water damage were heavy. The serious mistake here was thinking that one safeguard was enough to protect against a welding accident. Just as important as having an extinguisher handy when welding is to have all combustibles cleared away from the area where the welding is being done. Thirty-five feet is the minimum distance combustibles should be from even the smallest and simplest welding.

IT CAME FROM OUTER SPACE?

TWO men were working at the base of an oil derrick, when a large steel bolt suddenly smacked into the floor 5 feet away. Everybody looked up for the culprit who dropped it, but no one was working above. Investigation showed that all nuts and bolts were tight and none were missing from the top of the rig. No one seemed to know anything about it. Apparently, it was extra material which had been taken-up, not used, and left lying there. It might have been primitive justice for the man who left it there to have stepped on it and fallen, but it would not have proved anything except the uselessness of accidents. As it was, the men at the bottom of the derrick were lucky, but not *just* lucky . . . they were wearing hard hats!

"NO LOST TIME . . ."

A CONSTRUCTION worker on a hospital project in Detroit was wearing his protective helmet when a heavy wrench, falling from 40 feet above, struck his head. The helmet absorbed the shock, cracking and breaking. The worker's head did not crack or break. He suffered only scalp lacerations, instead of a possibly fatal injury to his head, neck and spine. Three stitches closed the cuts and he was back on the job quickly. The accident didn't make even the smallest headline; it got a short write-up in the job log and was classified officially under the heading "no lost time." That scarcely seems an adequate title.

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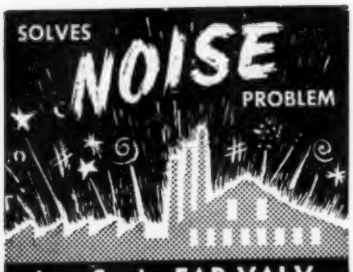

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"What's the Law?"

Edited by
HENRY M. GROSMAN
Counsellor at Law, Newark, N. J.

Master Superior Court, New Jersey
Member
American Bar Ass'n, New Jersey Bar Ass'n, National Federation Insurance Council
Past Commander, American Legion, Post 10, Newark, N. J.

★ ★ ★

Danger In Sand Dust

A MINER had been employed for 28 years for one mining firm. During the time of his employment he was in constant exposure to concentrated sand dust.

He took a second employment with another mining company and worked there for 4 years when he became disabled due to a silicosis condition.

The original action was brought into a Compensation court but was appealed by the defendants. The Maryland Court of Appeals held that since the claimant, the disabled miner, did not become affected, nor discover that he had silicosis until after the first employer was protected by the three year limitation statute, the claim against the first employer was dismissed, and the second employer alone stood liable for the payment of benefits.

Again, here is an example of the responsibility that an employer assumes when he does not require a physical examination of prospective employees and the proper health and safety equipment are not used.

(JOHNSTOWN COAL & COKE CO. v. DISHONG, Maryland Court of Appeals, No. 24., December 5, 1951.)

Share-A-Ride Death Is Compensable

The employee worked at a large manufacturing plant located about 12 miles beyond the limits of the city. There was no means of public transportation available to the plant and as a result, many employees drove to work in their own cars and other employees rode with them on a share-a-ride basis. The custom was well known to the employer who in turn provided an open parking space for cars.

On the day of the accident, it rained so heavily that the car in which the injured employee was to ride stalled. He and two fellow workers attempted to push the auto out onto a public highway. To gather enough speed, they enlisted the assistance of another car. When the bumpers were locked, the injured employee stood on the back of his car and rocked the auto as it was being pushed, attempting to separate the two wedged cars. The car suddenly started and the employee fell to the road. He was fatally injured.

The Court held it compensable, stating that the decedent was engaged in an undertaking that had its origin in and was caused by a risk incident to the employer's business.

(EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY v. KONVICKA, U. S. District Court, Southern District, Texas, No. 5051, August 2, 1951.)

Broken Ankle At Clambake Not Compensable

A secretary attended a clambake arranged and managed by the union of employees at her plant. The plant was closed down for the afternoon and no employees were paid for their time. There was no compulsion to attend, and the evidence indicated that the employer's only connection with the clambake was to contribute a part of the cost of tickets.

While the employee secretary was dancing, she slipped, fell and fractured her left ankle. This injury caused her to lose time from work and left her with a permanent disability. The Court ruled, however,

that her accident did not occur while she was in the course of her employment nor arising thereof, that it was not compensable and the employer not liable.

(TAGLIAREMI v. MACMILLAN BOOK COMPANY, N. Y. Supreme Court, Appellate Division, Third Department, November 16, 1951.)

Horseplay Held Compensable IF . . .

A 14-year-old girl who worked in a hotel laundry, while waiting for some clothes to get out of the washer, was told by her boss, the manager, to get into an electric extractor "and see if you can lie down," apparently for the purpose of cleaning it. While she was inside, he pushed the button starting the extractor and she was thrown violently about. As a result she received multiple injuries.

Although the girl first indicated that when she was told to crawl into the extractor she did not think it was something in connection with her duties, she later recalled that she did not understand the command but that, since he was her boss, she did whatever he told her to do.

The manager stated that he knew nothing about it. The girl's father later stated that the manager actually had said that he did turn on the machine but didn't think it would work as the door was not shut tight.

The Court held that an injury caused by horseplay of an immediate superior in which the victim employee did not knowingly and willingly participate is compensable.

(ANCHOR CASUALTY COMPANY v. PATTERSON, Texas Court of Civil Appeals, Easland, No. 2843, March 23, 1951.)

Not Inference—Specific Proof

A general helper in a lumber yard first noticed that his eye was bothering him while eating lunch at his house. He returned to work but his eye began to water and hurt. He reported his condition to the company, went to a doctor and remained away from work for several weeks.

As a result of the injury, his one eye could only distinguish between light and dark. The employee explained that in the process of putting up a building, a splinter must

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(For full details, use Key # S-38 on free Inquiry Card on page 75)

have been blown into his eye. However, he had not worked on the day prior to the alleged accident and on the two days prior to that he had only done some clean-up work in the yard. The employee stated that he had not rubbed his eye nor had he done any work at home. The treating doctor stated that the sliver of wood could have been blown into the eye or rubbed into the cornea.

The Court held that since the claimant worked only 8 hours out of 24, it could readily be inferred that the chances were 2 to 1 that the particle got into the eye when he was not working. The employee had not sufficiently proved that his injury was caused by his employment.

(DEINES BROTHERS, INC. v. INDUSTRIAL COMMISSION OF COLORADO, Colorado Supreme Court, No. 16, 774, March 10, 1952.)

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(For full details, use Key # S-40 on free Inquiry Card on page 75)

Quarterly Injury Rates

THE all-manufacturing injury-frequency rate moved down to an all-time low of 12.1 disabling injuries per million employee-hours worked in the fourth quarter of 1953, according to preliminary reports received by the U. S. Department of Labor's Bureau of Labor Statistics.

It was 13 percent lower than in the preceeding quarter and 10 percent below the corresponding average for the fourth quarter of 1952. On the basis of these data it is anticipated that the all-manufacturing injury-frequency rate for the year 1953 will be about 13.7. If so, it will be the lowest for any year on record.

The fourth quarter decline in injury rates was quite general among the various manufacturing industries. Of the 129 classifications for which quarterly rates were available 82 showed decreases of one full frequency-rate point or more, while only 9 recorded increases.

In a comparison of 1953 averages with 1952, 49 out of a total of 132 industries showed a significant improvement in their injury record, 25 had higher rates, and 58 recorded little change. The principal year to year improvements were shown in the lumber group and in primary metals, machinery, and instruments.

The logging industry recorded a drop from 92.1 injuries per million man-hours in 1952 to 81.3 in 1953; and integrated saw and planing mills, a decrease from 47.2 to 38.7. Four other industries in this group showed decreases of 1 to 5 points. Five out of 9 industries in the primary metals groups, 9 out of 15 in machinery manufacturing, and 4 out of 6 in the instruments group showed significant decreases in injury rates between 1952 and 1953.

Rates of less than 5 injuries per million man-hours were recorded by the synthetic fibers, synthetic rubber, miscellaneous communication equipment, explosives, rubber footwear, aircraft, radio tubes, electric lamps (bulbs), electrical equipment for vehicles, and tires and inner tubes industries.

TRANSPORTATION SAFETY

NEW TIRE-ALARM SAFETY DEVICE

A NEW safety device that automatically warns the driver in the cab of a truck, tractor, or other similar vehicle, when a tire becomes under-inflated, has recently been introduced. Known as Tire-Alarm, the new unit is mounted on the brake plate, and only one alarm switch is required to protect both tires of a dual mounting. The alarm reports to the driver immediately, when pressure in a tire falls below proper pressure, by means of a buzzer on the dashboard, which sounds the alarm. A flashing red light on the panel adds emphasis to the warning. The driver may flip a toggle-switch to turn off the buzzer until he can pull to the side of the road, or into the next service stop, but the red light continues to flash until the cause of under-inflation is corrected.

Because of the constant vigilance of the device, needless tire wear and destruction caused by under-inflation is said to be ended. The manufacturer stresses the safety value of the alarm on busses or other vehicles hauling "live" loads, as well as any trucks or trailers. The alarm is manufactured by Como Mfg. Corp. For details use key #TS-3 on Inquiry Card on page 75.

FIND . . .

THE DRIVER'S WEAKNESS

By BERNARD BURSTEIN,
Safety Director, Automobile Association of New Jersey

EVERYONE is accident conscious; everyone seems to be aware of the necessity for safety on the highways, the necessity for safe driving. However, safe driving to most of us seems to mean safe driving by the other fellow. The trouble is that accidents don't always happen only to the other fellow nor are they always caused by the other fellow. Sometimes, whether we admit it or not—we cause accidents.

There are many reasons why we cause accidents: our attitude at the particular time, our inattention, our flagrant violations of the traffic laws, and in many instances, some driver defect of our own about which we are not aware. Realizing that driver defects play a part in the accident problem, the Safety Division of the Automobile Association of New Jersey decided to try bringing driver defects to the attention of individual drivers, and to explain how to compensate for them.

Our first approach to this problem was to obtain and use a portable device that gives 5 tests; visual acuity, depth perception, color perception, field of vision, and simple reaction time. We also visualized the necessity to test those people who were causing a great proportion of our accidents and try to determine the correlation, if any, between their driver defects and the accidents in which they were involved. We could not conduct these tests ourselves, but offered to set up and maintain a testing station for the

State of New Jersey. The purpose of the station's examination of accident prone drivers was to bring to their attention any psycho-physical defect which might have caused an accident or which might cause a future accident; and also to bring to the driver's attention the fact that the state is aware of the driver's fault and expects that he compensate for or correct it after it has been brought to his attention.

Test Station Set Up

The association's offer to underwrite the cost of the test station for 2 years, provided the state's Motor Vehicle Department would staff the station, was accepted. For the first year of its operation, the clinic tested those drivers who had, under the state's point system, accumulated 12 or more points for traffic violations during the past 3 years of driving.

Upon the accumulation of 12 points within the 3 year period, the driver is sent an order to show cause why his license should not be revoked and he is advised that he may request a hearing. Upon requesting a hearing, the driver is notified to appear at the Accident Prevention Clinic at a specific time immediately prior to his hearing and is given a battery of tests.

Let's assume you are the driver and have to appear at the clinic. When you appear you are interviewed for name, age, education, marital status, income, length of driving experience, number of arrests, number of accidents and many more facts that the New York University Center for Safety Education psychologists have requested for their driver research work.

Upon completion of this interview you are asked to answer (if you are literate and have had at least an eighth grade education) two psychological written tests and a written motor vehicle knowledge test. Then you are conducted into the psycho-physical testing room, which is light proof and contains a battery of instruments to administer 9 tests.

First your visual acuity (your ability to distinguish letters at a given distance) is tested. For those who cannot read a projected road sign chart is used. You are also tested for field of vision—your ability to see a moving object to the side, while keeping your eyes straight ahead. Then you are seated in a mock-up drivers seat, containing a steering wheel, clutch, brake and accelerator. Your day and night depth perception—your ability to judge distant objects with relationship to each other and with yourself—is tested. Your simple reaction time, complex reaction time, color perception, night adjustment and glare recovery are all tested and the results marked down.

By this time you are probably thoroughly confused but greatly interested. After you have finished all this you are conducted to a motor vehicle inspector, who is given all the results of your tests. Now the pieces will fall together, for now the tests and the reasons for them are explained to you; and, if you have been found to be deficient in any of the tests, you are told how to compensate for the deficiency and avoid a possible future accident.

What To Do

If your depth perception is off—be cautious when passing and cutting back into traffic.

If your reaction time is slow—drive more slowly and follow the car ahead of you at a greater distance in order to compensate.

If your side vision tests below the minimum standard in either eye—approach intersections more slowly and turn your head in the direction in which your limitation exists to properly observe the flow of cross traffic.

You are given a printed form upon which are marked all your psycho-physical test scores, and on the back of which is a list of the recommended compensations for any defects. Now, you too, are a graduate of the "New Jersey Accident Prevention Clinic."

After the first year of operation, New York University Center for Safety Education analyzed the results of the clinic and submitted them to Director William Dearden of the New Jersey Division of Motor Vehicles. In his report on the results, Mr. Dearden says, "The clinic has already yielded data from which a significant conclusion can be drawn with respect to the relationship between traffic law violations and accidents. It has established, once and for all, that in New Jersey at least, the chronic traffic law violator is involved in 5 times as many accidents as the average driver and hence is deserving of special 'attention' from the enforcement body."

He adds, "I feel strongly that the clinic is having an important effect, psychologically and educationally, not only on the individuals being processed through the clinic, but also to some extent on the general driving public as it learns of the work of the clinic."

Pictures by courtesy of Automobile Association of New Jersey.

From an address delivered at the 2nd annual Miami Insurance Conference.

Traffic Fellowships

THREE fellowships in the field of traffic safety have been established at the New York University Center for Safety Education by a grant from the Esso Safety Foundation, it has been announced by Dr. Herbert J. Stack, Center director.

Each of the $2,000 fellowships provides for a year's study and research in traffic safety at NYU. Graduate and undergraduate students who live in one of the 18 eastern and Atlantic seaboard states or the District of Columbia are eligible for the fellowships.

The Foundation, established in 1932, lends active support and participation to public groups interested in stimulating safety consciousness and education. In addition, it extends financial aid to universities and state agencies working in the fields of driver education and traffic engineering.

Further information and applications for the fellowships can be obtained from the Center for Safety Education, New York University, Washington Square, New York 3.

Stop signs are being changed all over the country because you . . .

STOP WHEN YOU SEE RED!

RED traditionally warns of danger. Capitalizing on this psychological impact, traffic engineers have decided to use it to save lives—the lives of some of the 40 thousand persons statistically doomed to die in traffic accidents in 1954.

Gradually being strung across the nation's streets and highways is a new reflectorized, red stop-sign that conveys with dramatic brightness the unmistakable warning: "STOP."

There is no doubt about the size of this danger, traffic authorities point out. Few states compile complete reports on intersection accidents; but, on the basis of the figures available, it is estimated that fatal collisions between motor vehicles at intersections account for 11 percent of all accidents. Another 4 percent of all fatal accidents involve pedestrians and motor vehicles at intersections. In cities, collisions of motor vehicles at intersections account for 43 percent of all accidents, with or without fatalities, and in rural areas for 19.4 percent. South Carolina found that disregarding stop-signs was a major cause of fatal accidents in 1952. A total of 581 drivers disregarded stop signs, the state highway department reported, and 37 of the accidents in which this violation was indicated were fatal.

Red Easily Seen

These are accidents traffic authorities expect the red stop-sign to reduce. Not only is it strikingly evident during the day, but at night, reflecting the lights from the oncoming driver's car, it glows with a brightness that makes it 100 times brighter than white paint. Since, according to estimates, almost 3 times as many accidents happen at night on a mileage basis, the advantages of the reflectorized red stop sign are obvious.

The reflective material contains millions of tiny glass lenses, 30,000 per square inch of the sheeting—each of which acts as a reflector. In high-beam headlights these signs are brightly visible from nearly a half-mile away. In the low beam lights used for city driving, they send their vivid red message to the driver while he is still more than a block away, plenty of time for him to react to them and slow down gradually instead of grinding to a sharp halt, that may cause the car behind him to smash into his rear end.

As evidence of the red stop-sign's possibilities as a factor in reducing

traffic accidents, authorities cite tests conducted in Florida. Florida state traffic engineers found in a survey that only 15 to 20 percent of motorists came to a full stop for the old-style yellow and black stop-sign. When the vivid red stop sign with its glowing white letters was substituted, observance of the command to "stop" jumped to between 50 and 60 percent at the same sites. Further evidence of the red stop-sign's intensely greater visibility is the comment of Rex Still, Washington state highway department traffic engineer, who points out that a yellow stop-sign at a Bremerton, Washington, intersection was being knocked down by cars repeatedly. A red sign was put in its place and in its first year it hasn't been knocked down once. For just such reasons, it has been recommended as the official standard for use all over the United States by the Joint Committee on Uniform Traffic and Control Devices.

Idea Not New

The idea of red stop-signs as a national standard is not new—they were recommended originally at the National Hoover Conference in Washington, D. C. in 1924. But at that time two factors militated against their adoption: red pigments then availible faded too rapidly; and red, at night, was hard to see. As a result, yellow was selected as the standard color because it was relatively color fast and somewhat easier to see at night. But its major disadvantage, which increased over the years in direct proportion to the increase in the number of drivers, was that yellow stop-signs were too often confused with numerous other yellow signs, so that more and more drivers failed to heed it.

This factor, and the traditional use of red to signify complete stop on traffic signals and flashers, kept the need for a red stop-sign high on officials' plans for improved traffic control. Official desire for a better stop-sign was expressed again in 1948 when the National Manual on Uniform Traffic Control Devices was written, its provisions indicating that the ultimate in stop-signs was yet to be achieved and that further research was needed for a stop-sign that would combine all the advantages of brightness, color and shape.

Finally, all the technical obstacles were overcome and a red stop-sign of reflective material was recommended as the standard stop sign for the entire country by the Joint Committee on Uniform Traffic Control Devices at its meeting last June.

Reflective Sheeting

First developed in the 1930's, reflective sheeting was used during World War II to mark military supply routes and to indicate boundaries of airport runways and taxi strips. In 1948, transparent colors were developed for application to reflective sheeting.

Since the war, additional varieties of reflective sheeting were developed for use on trucks, buses, railroad coaches, freight cars, railroad crossbucks and right-of-way signs, some 4 million bicycles, nearly as many auto bumpers, canes for the blind, traffic signs in all 48 states, and to make both fresh- and salt-water buoys brightly visible after dark.

States which have adopted the all-red sign as standard include South Dakota, Florida, Oregon, Louisiana, Indiana and Washington. States in which city, county, or state officials already are using red reflective signs are Alabama, Arkansas, Georgia, Idaho, Iowa, Illinois, Maine, Maryland, Michigan, Minnesota, Missouri, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, West Virginia and Wyoming.

Chicago is installing 1,000 such signs at this time. New York City announced early in 1953 that all of its future signs would be red reflective signs, so did Baltimore.

At one corner still dependent on the yellow stop-sign to protect motorists approaching the intersection, on a dull afternoon this winter, a mother and her 4 daughters were riding in a car driven by a friend. It was twilight and very difficult to see. The driver of the car told police later he failed to see the stop-sign in the dim light. An approaching car forced him to make a sharp turn, the car skidded into a stop-sign on the other side of the road, and tipped over. The mother died instantly. Her eldest daughter died a few hours later and the 3 youngest girls were injured.

This is the type of accident traffic officials are determined to avoid with their new vivid red stop-sign.

Pictures by courtesy of P. L. Syndicate.

Traffic Safety Awards

FIFTEEN awards by the National Committee for Traffic Safety have been made to individuals and organizations for their outstanding contributions to highway safety in 1953.

Eight organizations winning citations include the Birmingham (Ala.) Junior Chamber of Commerce, Crusade for Safety Committee of the Greater Muskegon (Mich.) Chamber of Commerce, the Domain of Indiana of the Knights of Pythias, District Number Four (Fla.) of Pilot Club International, the Grand Ledge (Mich.) Asssociation of Insurance Agents, the Safety Advisory Board of the Cleveland (O.) Automobile Club, Outdoor Advertising Association of America, Inc., and the Omaha (Neb.) World-Herald.

The seven individuals who were selected to receive recognition for their outstanding traffic safety activities were Mayor David Lawrence of Pittsburgh, Pa.; Raymond F. Waters, chairman of the Lea County (N.M.) Traffic Safety Commission; Earl W. Stanley, member of the Assembly of California; Mrs. J. Howard Hodge, national safety chairman of the General Federation of Women's Clubs; Mrs. Glenn W. Folkers, executive secretary of the Ladies' Auxiliary, National Rural Letter Carriers' Association; Governor Arthur B. Langlie of the State of Washington, and Phillip C. Johnson, Indiana state representative.

the man who couldn't see beyond his own nose

(or) "fables and facts about advertising"

Once there was a man . . .

who used to kick and cuss every time he read a newspaper or magazine—or listened to his radio—or watched his television.

"That blankety-blank *advertising!*" he'd say. If folks who want to sell me their stuff would only *cut out* all their expensive *advertising*, and use that money to lower their *prices*, I'd be a lot better off."

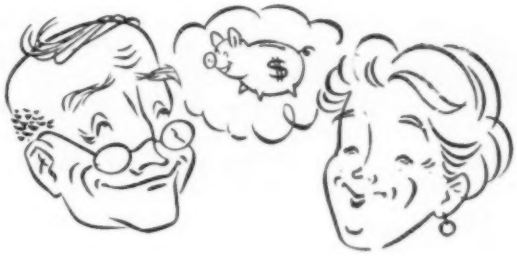
And then his dutiful wife would say, "You're absolutely *right*, Rudolph! Every time we buy a dozen oranges; or a can of soup, or anything at all—part of our money goes to pay for the *advertising!*"

"Yes (Rudolph, again) and just *think* how much it must amount to when we buy something *big*—like a new mattress, or something!"

So, Rudolph and his wife always felt better when a salesclerk would say "The reason this article costs less is because the manufacturer *doesn't advertise.*"

And then they would buy it, happy in the belief that they had found a "bargain"!

Poor Rudolph! He just couldn't see beyond his own nose! And neither could his wife!



because here are the facts...

Advertising doesn't *cost* you money when you buy something . . . it actually *saves* you money.

Here's why that is so: Through advertising, a manufacturer or a retailer can so increase the *demand* for his goods that he secures "volume sales." (That's just a fancy way of saying he sells a *lot* of goods to a *lot* of people—*instead* of just a *few* things to a *few* people. And as you well know—it's an "old American custom" that the *more* you produce and sell—the *lower* your price-per-unit can be!

So, by telling a *lot* of people about a product, and persuading them to buy it, advertising makes it possible for *all* of those people to buy that product at a price *far lower* than would otherwise be possible (Rudolph and his wife included—if they only knew it!)

True (as Rudolph said), when you buy an advertised product, the price you pay includes the cost of the advertising.

But do you know how much it amounts to? Well, in the case of a dozen oranges, for instance, it's less than a penny! In a can of soup it's about a third of a cent! And even in the case of such a "big" thing as a *mattress* (like Rudolph said) it's far less than you probably imagined. For, the manufacturer of one of America's best known (*and largest selling!*) mattresses actually pays *more* for the paper carton he puts *around* each mattress than he does for all the advertising he puts *behind* it!

And if he *didn't* spend that money for advertising the chances are he'd sell so many *fewer* mattresses that you'd have to pay a lot *more* to buy one of them!

All of which means that "it pays to advertise"—pays *you* as well as the advertiser!

(Please tell Rudolph!)

by courtesy of the **CHAMBER OF COMMERCE OF THE UNITED STATES**

ALFRED M. BEST COMPANY • 75 Fulton Street, New York 38, N. Y.

Save Them While They're Young

AMERICA'S schools have a key role in fighting the tragedy of industrial blindness and eye injuries, Spencer B. Hopping reports in a new pamphlet, "Eye Safety in the School Shop Program," published by the National Society for the Prevention of Blindness.

"Schools and industry must work closer together if we are to reduce to a minimum the 300,000 eye injuries that take place in industry every year," says Mr. Hopping, assistant manager of the safety department of the American Car and Foundry Corporation, and a Board of Education member at Hastings-on-Hudson, New York.

Mr. Hopping's concern with eye safety has already paid dividends at Hastings-on-Hudson, where a high school student recently saved his eyesight at the time of a shop accident because he was wearing the right eye protection.

Mr. Hopping believes that all children should be trained to use safety glasses in school shops "so that they will naturally continue to wear them when they enter industry."

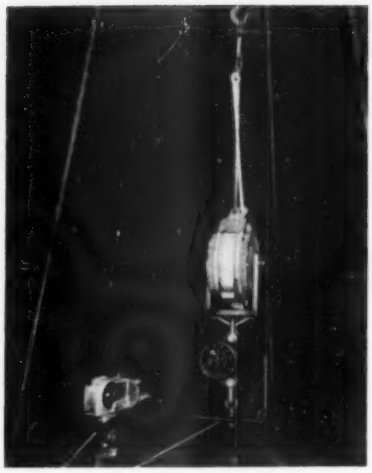
Mr. Hopping outlines the successful methods adopted by Hastings-on-Hudson as the first school in the United States to have a 100 per cent safety goggle program for its industrial arts shops. In 1949, Mr. Hopping says, "safety goggles became a requirement for all students and instructors in the metal and wood shops." All other persons entering the shops "put on safety glasses, too, for their own protection and to set a good example." Students requiring corrective lenses obtained a prescription from their own doctors and corrective, shatterproof lenses were provided by the Board of Education. The entire cost for the complete safety program was considerably less than the possible cost of an injury to one eye.

Mr. Hopping reports that special cabinets built in the school wood shop were set up so that students could get their goggles immediately on entering any shop. "Each student had his own pair of safety goggles, kept them in an individual case, and had his own place . . . a goggle cleaning station was also installed next to each cabinet."

PUTTING SAFETY IN ENGINEERING STUDY

No, these men are not coal miners or sand hogs. They are Yale University students sporting some new headgear for safety's sake. Michael Perugino (center), Superintendent of Yale's Mason Lab of Mechanical Engineering checks out safety helmets for the engineering students ready to go on their inspection trip of various manufacturing and utility plants nearby.

(Photo credit: Alburtus, Yale News Bureau)



Safety Belt Tester

A MEANS of testing safety belts not only for their breaking point but for the amount of kinetic energy absorbed, has been developed by the Rose Manufacturing Company of Denver, manufacturers of safety belts.

Photographic Record

This test uses a dynamometer as the measuring device. As may be seen from the accompanying photograph, a hoist suspended from a tripod exerts a pull against a safety belt positioned around a drum. The drum in turn is bolted in series with the dynamometer, the entire assembly being anchored to the base of the tripod. The drum is used to simulate the pressure caused by a man's body against the safety belt.

A steel tape is fastened at the anchor point, and is attached to the top of the tripod by a wire. The slow motion camera at lower left of the picture records both the poundage of the dynamometer dial as tension is increased, and the extension of the tape as pull is exerted and the safety belt stretches. This provides an accurate reading of the kinetic energy expended against the belt and the ability of the belt to withstand shock, as well as the actual breaking point of the belt.

Picture by courtesy W. C. Dillon & Co., Inc.

Eisenhower Welcomes Safety Meeting

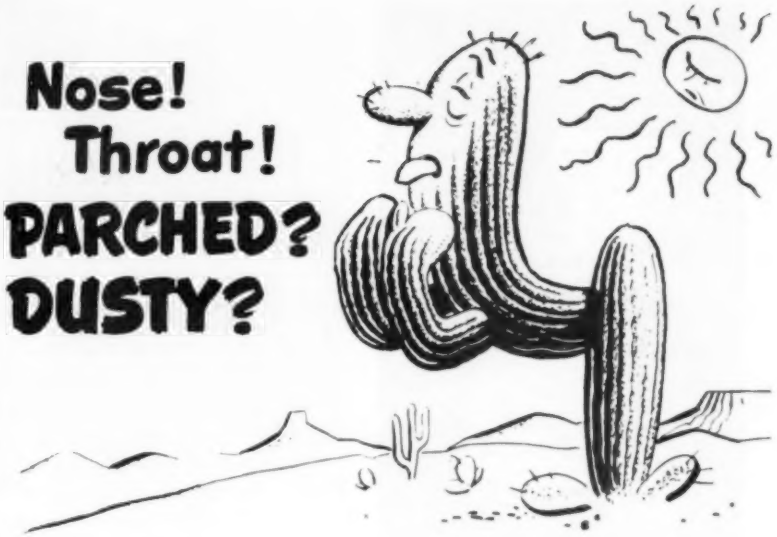
AN ADDRESS of welcome by President Eisenhower featured the Annual President's Conference on Occupational Safety, under the direction of the United States Department of Labor, in Washington early last month.

In his greetings personally delivered to the delegates assembled at Constitution Hall, the President thanked those present for devoting their time and energies to the prevention of accidents in industry as that crusade is one with which he is deeply concerned. The President reminded his listeners that the man-days lost in 1953 in this country as the result of industrial accidents would have built one million 6-room houses, aside from the toll of suffering and money lost.

The President stated that we constantly read of differing opinions and controversies concerning our national and foreign policies as would be the case in our Republic, but he emphasized that accident prevention is one desirable goal concerning which there can be no dissenting voice. He stated that every segment of our society—management, labor, education, insurance and government—is in full accord that the appalling bill in terms of life, money and suffering, chalked up as the cost of accidents, is a luxury no free nation can afford.

In paying tribute to the delegates, President Eisenhower said that their contribution to reducing this national burden is one in which they all can take justifiable pride and that it was his desire to extend an unusually warm welcome and wish great success to the three-day deliberations.

Nose! Throat! PARCHED? DUSTY?



YOU NEED . . .
Water-cooled
DUPOR No. 20

Double sponge filters, saturated with water before wearing, provide cool breathing even under hot, dusty or smoky conditions. Paint shops, foundries, steel mills, chemical labs, oil refineries, etc. have used and recommended this respirator for years. Regardless the industrial dust or fume hazard, here is an individualized air-conditioning unit that makes breathing safe for every worker. Get details! Sample sent $2.50 postpaid.

H. S. COVER, SOUTH BEND, IND.

"Respirators for Industry since 1894"

(For full details, use Key # S-41 on free Inquiry Card on page 75)

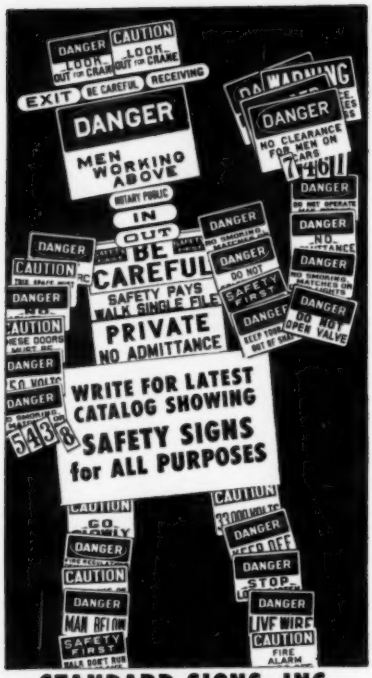
A Dissenting Opinion

"THE currently accepted theory that most accidents are sustained by a small fixed group of 'accident-prone' individuals is open to question," writes M. S. Schulzinger, M.D., of Cincinnati, Ohio, in "*Industrial Medicine and Surgery*."

"It is being taught in schools and preached over the air and in the press that 15 per cent of the population is responsible for 85 per cent of all accidents. Clinical experience and study do not support this view," Dr. Schulzinger states.

Having analyzed 27,000 consecutive industrial accidents in a great number of industrial plants and 8,000 consecutive non-industrial accidents, Dr. Schulzinger suggests that "most accidents are due to relatively infrequent solitary experiences of large number of individuals. The total number of accidents suffered by those who injure themselves year after year, over a period of three or more years, is relatively small."

What do you think?



STANDARD SIGNS, INC.

3192 EAST 65th ST., CLEVELAND 27, OHIO

(Use key # 5-42 on inquiry card on page 73)

WANTED

for Murder...

CANCER is the cruelest enemy of all. No other disease brings so much suffering to Americans of all ages.

YET—though 23 million living Americans will die of cancer, at present rates—there is reason for hope. Thousands are being cured, who once would have been hopeless cases. Thousands more can have their suffering eased, their lives prolonged. And every day, we come closer to the final goal of cancer research: a sure and certain *cure* for all cancer.

THESE THINGS have all been helped by *your* donations to the American Cancer Society. *This* year, please be especially generous!

Cancer
MAN'S CRUELEST ENEMY
Strike back—*Give*
AMERICAN CANCER SOCIETY

SAFETY ACHIEVEMENTS

THE National Constructors Association, composed of the leading engineering and construction companies specializing in the design and construction of chemical and power plants, steel mills and oil refineries, announced awards to seven engineering and construction companies for outstanding safety records in 1953.

The companies receiving the safety awards included The Chemical Construction Company, New York; The M. W. Kellogg Company, New York; Fluor Corporation, Ltd., Inc., Los Angeles; Ford, Bacon & Davis Construction Corporation, Monroe, La.; The H. K. Ferguson Company, Cleveland; J. F. Pritchard & Company, Kansas City, and Rust Engineering Company, Pittsburgh.

The awards are part of a continuing, year-round safety program launched by the National Constructors Association to reduce both the severity and frequency of accidents in the construction industry.

CATERPILLAR Tractor Co. employees have just completed their safest year according to statistics released by H. S. Simpson, Safety Manager at the Peoria, Ill., plant.

In setting the new record, Peoria employees had only 2.2 lost time accidents for every million man-hours worked. This betters the previous record low set last year of 2.7. Several departments within the company had no lost time accidents during the years and the Metallurgical Laboratory completed its 11th consecutive year without a lost time accident.

"Peoria employees, on the basis of this record, were four times safer at work last year than the average employee in any other industry," Simpson said.

Simpson said that the record was achieved through increased acceptance by employees and a growing emphasis on safety education, because most people were making use of available safety tools and services, and because of the broadening of the company's safety conference program.

THE Norfolk Naval Supply Center has received its eighth consecutive Secretary of the Navy Industrial Safety Award in ceremonies at the Naval Base. At the same time the Norfolk Center received the Secretary of the Navy's Motor Vehicle Accident Prevention Award for 1953.

In order to win the coveted Secretary of the Navy Industrial Safety Award for 1953, the Supply Center had to better its award-winning record for the previous year. In 1953 the Center cut its accident frequency rate down to 2.02 lost time injuries per million man hours worked during the year.

To win the Secretary of the Navy Motor Vehicle Award, which the Supply Center has won all three years it has been given, the Supply Center's drivers held their accident rate down to only one chargeable accident ($25 damage or more) per 152,258 miles driven. Their casualty rate was zero, and damage cost rate $47.36 per 100,000 miles driven. The year's mileage totaled 1,369,112 miles. Motor vehicles, as classed under this award, include all motorized equipment at the Center except materials handling equipment. The Center's safety program is under the direction of W. W. Kelley, safety engineer, under the Industrial Relations Department.

FIRST Army reduced its accident death toll by 57 per cent in 1953, it was revealed during the presentation of the Department of the Army's Award of Merit for Safety to the First Army Commander, Lt. General Withers A. Burress. This included a 39 per cent reduction in military accident deaths, and 18 per cent in civilian accident fatalities. First Army injuries in 1953 were lessened by 26 per cent.

In order to win the Award of Merit for Safety, an Army command must indicate a net improvement average of all changes in accident and injury rates for the year, over the preceding two-year period.

For 1953 First Army's average reduction of all accidents totaled 15 per cent. Also cited by the Department of the Army was First Army's excellence in its safety organization, preventive and corrective safety measures, and the interest and participation extended by the First Army Commander and staff.

"THERE is no substitute for cooperative and vigorous practice of safety rules and procedures," said William Schmidt, Superintendent of Cases Manufacturing at Bell & Howell Company, after his departments recently completed 500,000 man hours without a lost time injury. Schmidt, and Company Safety Director E. E. Lamb, have always claimed that safety is primarily a supervisory function.

The company record in the wood products departments represented 3½ years without a disabling injury. The last lost time accident occurred in November of 1950.

Removes dirty suds and water from scrubbed floors...dries flooded areas.

Sweeps floors "with air." No cloud of dust...no sweeping compound needed.

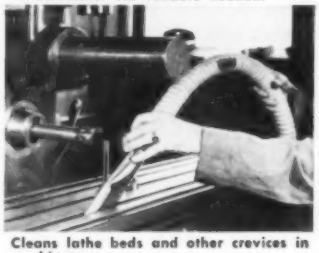
Drains coolant sump tanks.

HILD

WET-and-DRY VACUUM does scores of clean-up jobs

Cleans overhead pipes...no ladders needed, no shower of dust.

Cleans shelves and ledges with hi-up attachments. No ladders needed.



Cleans lathe beds and other crevices in machinery.

HILD Heavy-Duty Vacuum

Always ready for any clean-up job...wet or dry...without adjustment or change of filter. Big capacity...55 gallon tank holds 40 gallons recovered liquid. Easy to move, easy to empty through quick-opening 2-inch gate valve.

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HILD System MAINTENANCE EQUIPMENT & SUPPLIES

(For full details, use Key # S-43 on free inquiry Card on page 75)

THE C. G. Sargent's Sons Corporation of Graniteville, Mass., has been awarded the Certificate of Award by its insurance carrier for the company's outstanding safety record of 1953. Sargent had no lost-time accidents whatever in the plant during 1953, clocking over 300,000 man hours of plant operation.

The Sargent Safety Program was inaugurated by establishing a Safety Committee consisting of all Foremen and Lead Men under the direction of a Safety Director. Every safety measure recommended by insurance safety engineers was carried out in full.

AMERICAN Optical Company has been awarded its 5th National Safety Council Award of Honor and has set a world's record for plant safety. In addition to this award, the company received a gold "Oscar" for its outstanding safety program last year.

AO's 1953 record, established between April 10 and December 31, was 5,768,634 man-hours without a disabling injury. The record is a new high for the photographic, optical and scientific instrument industries.

THE Ford Motor Company has announced that its Ford Division assembly plant in Norfolk, Va., has established a new company-wide safety record of 7,500,000 consecu-

tive man-hours worked without a serious accident. The plant, which employs more than 1,600 persons, has operated since October 2, 1951, without a "lost-time" accident.

The Norfolk mark surpasses the previous company record of 7,418,048 accident-free hours established by the Cincinnati, O., automatic transmission plant between February 23, 1952, and May 19, 1953. Both records are milestones in a continuing safety-improvement program that in the last seven years has reduced Ford's accident-frequency rate by more than 80 per cent and its accident-severity rate by more than 55 per cent. The rates are substantially below those for the automobile industry, which in turn has one of the nation's best safety records for heavy industry.

THE Paper Division of Ecusta Paper Corp., a subsidiary of Olin Industries, Inc., set a new world's record as the safest fine paper plant for employees anywhere, according to records of the National Safety Council.

The plant marked up 439 consecutive work days and 2,811,400 man-hours with no disabling accident of any kind. This surpassed the previous world's safety record for fine paper mills. The old record was 2,809,700 man-hours with no disabling injury.

AN AWARD of Merit "in recognition of the accident prevention record of its employees" has been presented the Boston Woven Hose and Rubber Company of Cambridge, Mass. by the company's insurance carrier. The award represents 1,534,981 man hours without a lost-time accident.

According to W. T. Dwyer, head of the Boston Woven Hose Safety Policy Committee, the no lost-time record was achieved between January 12 and July 26, 1953. "The average for the rubber industry is one accident for each 65,000 man hours," Mr. Dwyer reported. "That means that increased employee vigilance during the record months saved 24 men from injury."

FOR the fourth consecutive year the Air Force has been awarded the National Safety Council Award of Honor for reducing ground accidents in 1953. The award was given in recognition of a 21.96 percent reduction in ground accidents over the previous 2 years. The Air Force's ground safety program provides education in accident prevention in all ground activities such as motor vehicle driving, maintenance, construction, training and industrial activities.

THE National Safety Council, has presented The B. F. Goodrich Co. with its Award of Honor, in recognition of industrial accident prevention performance on a corporate-wide basis for 1953. All of the company's manufacturing operations in Akron will also receive the Award of Honor for having reduced the injury frequency rate by 46 percent, and the severity rate by 55 percent, as compared with the par established for the rubber industry.

In the tire and equipment division, the Oaks, Pa., tire and tube plant has earned an Award of Honor for having worked in excess of 4,000,000 manhours without a disabling injury. The Council's Award of Merit will also be presented to the division's Martha Mills textile plant at Silvertown, Ga., and the airplane wheel and brake plant in Troy, O. Awards of Merit will be presented to industrial products division units at Du Bois, Pa., and Cadillac, Mich.; the BFG Research Center at Brecksville, O., and to the company's footwear and flooring division, Hood Rubber Co., at Watertown, Mass. A Certificate of Commendation for accident prevention in 1953 will go to the Riverside, N. J. plant of the industrial products division.

THE Pennsylvania Salt Manufacturing Co. announced the achievement of the best's year's safety record in its history. Competing for the President's Trophy, approximately 3200 employees in Pennsalt's 13 operating units worked more than 6½ million hours, and had only 16 accidents during 1953 for a new low total loss of 307 working days. Both the number and severity of accidents were well below the national average for the chemical industry.

THE Lake Charles, La., and the Corpus Christi, Tex., plants of the Columbia-Southern Chemical Corp. have completed an entire year of operations without a lost-time accident. A total of some 1200 employees at both plants worked more than 2,500,000 man-hours during the accident-free months.

During the 12-month period more than 1 million man-hours were worked at the Lake Charles plant without a lost-time accident. Corpus Christi employees worked more than 1,500,000 man-hours without a lost-time injury. Injuries at the Texas plant during 1953 occurred at the rate of only 1.3 per million employee-hours.

TIDE Water Associated Oil Co.'s 1,450-man Avon refinery at Associated, Calif., has completed over a million consecutive man-hours of work without a single disabling injury. This is the third time the company's Avon refinery has passed the million-hour mark without a disabling injury.

Last year this refinery reported a rate of 1.72 accidents per million man hours. The 1.72 rate established last year compares with 7.02 for the average of other refineries in the petroleum industry as reported to the American Petroleum Institute, and with 9.67 for the entire petroleum industry's marketing, transportation, producing, and manufacturing activities.

FOR the fifth consecutive year, employees of Westinghouse Electric Corp. set an all-time company record for safety during 1953 with one-third as many injuries as the average for all industry for each million man-hours worked. During the last five years company employees lowered frequency of accidents 42 percent and severity of injuries 30 percent.

ENTHUSIASM

. . . INSTEAD OF Tolerance

By using imagination you can make safety attractive . . . vivid . . . interesting . . . and show each worker clearly how safety benefits him. And you have his enthusiastic cooperation — not mere tolerance.

YOUR
Safety News
THE JOHN DOE COMPANY, INC.
Why Your Safety Means So Much
in Big Plants
& Small
Let's put it this way: Assume that an average workman has a wife and two children and during a year's time each member of the family has an accident, such as a bad fall, cut, burned fingers or any injury that would prevent normal activity for a day or so. This might not seem too bad. But suppose in a plant of 10,000 workmen, each employee has a lost time accident. That would mean 10,000 injuries in one year! WOW!
Small plants SEEM to have so few accidents that many of them do not even figure their rate. If they did, the chances are they would get a big surprise, for the accident rate of small plants may be higher than for big plants. It doesn't matter what size plant we have—safety requires the cooperation of everyone for his own good.
Play it safe wherever you are.
John Doe

Size 5½" wide x 8½" deep

. . . talks the worker's language!

Full of color, pictures, humor and snap, it makes safety interesting and down-to-earth. 12 times a year it covers every accident hazard. Nationwide, leading industrial firms state it's the *only safety paper their employees will read* . . . and take home to their families.

It gives you the advantages of personal contact, saving time and money. When it prevents one Lost Time accident, it has more than paid its cost for the year. Try it . . . it works!

Your Imprint Here!

makes YOUR SAFETY NEWS your own publication . . . a good-will ambassador . . . another force for better industrial relations.

Every employee feels bucked-up by a note from the boss. If you desire, your facsimile signature can be printed here.

Your Signature Here

NOTE:

Your Safety News is designed to promote better employer-employee relations. Every item is carefully weighed from this viewpoint.

INSIDE PAGES
(pages 2 and 3)

IN YOUR EMPLOYEE'S INTEREST

Your employee's self interest in his own safety is always emphasized. Even household hazards are covered to keep him safety-conscious every minute, not only in the plant, but at home and on the way to work.

CHOCK-FULL OF ILLUSTRATIONS

Artwork is carefully chosen to lodge home each point. The cartoon style makes YOUR SAFETY NEWS as familiar and as welcome as the Sunday supplement.

THE "FOLKSY" APPROACH

Keeping the contents folksy, adding the grace note of humor, delivers your safety message with a nudge instead of a bludgeon. Your monthly chat gets enthusiasm instead of tolerance.

VIVID COLOR

Generous use of color gives sparkle, adds to the attention-riveting qualities of YOUR SAFETY NEWS. Each issue is as lively as any news-stand favorite.

HOW TO ORDER

YOUR SAFETY NEWS may be ordered with either the Standard imprint or with your Own Special Imprint. The Standard Imprint reads PLEASE COOPERATE FOR THE SAFETY AND HEALTH OF ALL . . . signed . . . A SAFE WORKER.

You can personalize YOUR SAFETY NEWS with the name of your firm and the name or facsimile signature of a company representative as illustrated. Give full instructions for your Special Imprint on the order blank below.

Item (1) FIRM NAME. Please show the name of your firm exactly as it is to appear.

Item (2) INDIVIDUAL NAME OR SIGNATURE, if desired. In the large space provided, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

NOTE: Although a personal signature is effective, some firms substitute: SAFETY DEPARTMENT, YOUR SAFETY COMMITTEE, A SAFE WORKER, etc.

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ALFRED M. BEST COMPANY, Inc. • 75 Fulton Street, New York 38, N. Y.

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☐ Special Imprint ☐ Standard Imprint

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Item (2) — (If desired) — Please imprint the name or signature shown below, or the following:

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Per Month	Your Special Imprint	Standard Imprint
6,001 copies and over	2½¢ each	2¢ each
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501 to 1,000 copies	4½¢ each	4¢ each
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100 to 199 copies	6½¢ each	5¢ each
25 to 99 copies	*	5½¢ each

*5½¢ each plus $3.00 per month for Special Imprint F.O.B. New York, N. Y.

What's New . . .

For your convenience in obtaining descriptive literature of products listed here, use the Reader's Inquiry Card. Just write in the code number given with each item. Or send written requests to:

Service Dept.,
SAFETY MAINTENANCE & PRODUCTION

D ABSORBING UNITS

600 on Inquiry Card on page 75)

TIRELY new approach to the
t of industrial noise by use of
, small, portable, light weight
installed sound absorbing units
ed by the Sonosorber Corpora-
wn as Sonosorbers, the units
cores encased in perforated
ossed aluminum and are light
out 2½ pounds each) and are
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licable or adequate, and have
uses in the reduction of noise,
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value of noise absorption in
nd low frequencies. They are
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eas larger than their physical
in certain frequencies. Placed
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ends to break up sound waves,
absorb or drain the sound due
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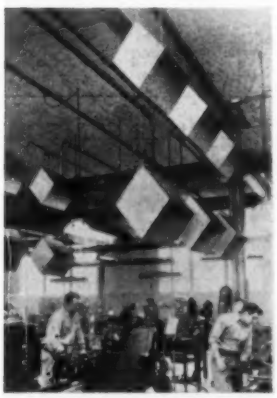

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y locations. The use of these
not necessitate alteration or
sprinklers, lighting fixtures,
ventilating or other existing

FOLDING POLE LITTER

(Use Key # 601 on Inquiry Card on page 75)

INTRODUCTION of a folding pole litter, along with other stretchers, cots and emergency first aid equipment, is announced by Frank Mfg. Co., Inc. The new litter has an all aluminum folding undercarriage with a heavy cotton duck

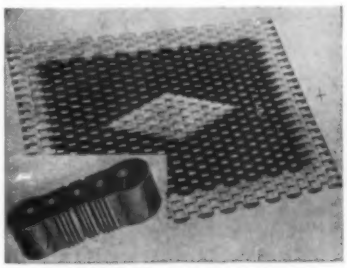
cover that is fire and mildew resistant. The telescoping poles come apart at the center for easy folding. The entire unit is finished in olive drab. The litter is 92" long and folds to 46" when not in use.

Other equipment in the Frank line, designed for industrial and institutional dispensaries, ambulances, courtesy cars, hospitals and plants, include a stacking litter cot, Army-style folding cots, a straight pole litter and an improved half-ring Thomas Leg and Arm Splint.

COMBUSTIBLE GAS DETECTORS

(Use Key # 602 on Inquiry Card on page 75)

COMBUSTIBLE gas detectors for installation in Class I, Group D hazardous locations to analyze and warn of dangerous concentrations of combustible gas have been listed for the first time by Underwriters' Laboratories, Inc. Mine Safety Appliances Co., manufacturer of the instruments, announces also that approval of the units was received from Associated Factory Mutual Fire Laboratories. The Underwriters' listing approves the installation of the MSA explosion-proof instruments right in the area where combustible gases or vapors may be present. The detectors can be used with assurance that they comply with the highest standards of safe design and thus cannot, in themselves, serve as a source of ignition. The instruments are constructed in explosion-proof cases and are equipped with heavy duty flashback arresters. Also included in the approvals is MSA's eight-point sampling valve which permits one Combustible Gas Alarm to analyze, in sequence, samples from eight different locations in hazardous areas. With the instruments, potential explosive hazards can be analyzed continuously and brought under control before reaching the critical stage. The units can test most of the combustible gases and vapors found in industrial processes. Within the analyzer are two heated and sensitized platinum filaments, forming a balanced electrical circuit. One, a compensator unit, is sealed in a cell containing air. The other is a detector unit. Air samples are drawn over the detector filament and any combustible gases or vapors present are burned. This increases temperature and electrical resistance of the detector filament, causing the circuit to be unbalanced in direct proportion to the concentration of combustibles in the sample. An indicating meter, or relay, is designed to energize the alarm circuit when the percentage of combustibles in the air sample reach a predetermined point. The alarm circuit can be arranged to sound horns, light warning signals, actuate fire extinguishing equipment or start ventilating systems.



PLASTIC FLOOR MAT

(Use Key # 603 on Inquiry Card on page 75)

A NEW line of vinyl plastic link mats is announced by Melflex Products Co. Available in various sizes and colors, the mats, the manufacturer states, have high wearing ability and great resistance to oils, fats, gasoline, alkalis and acids.

The mats are made of precision cut links which are woven on rust-resisting steel rods with end reenforcement plates. Provides a non-slip surface for lobbies, corridors, entrances, and also in kitchens and around machines where oils and grease cause deterioration of many types of mats. Easy to keep clean because the mats do not absorb soil of any type.

POISON IVY MEDICATION

(Use Key # 604 on Inquiry Card on page 75)

MEDICAL Supply Co. announces a new unit for the treatment of poison ivy, oak, and sumac. The new unit, MSCo No. A-20 Zicreme, is a single size unit and contains six ⅛ oz. tubes of ointment.

The new product contains carbonated hydrous zirconia in a specially developed base. Carbonated hydrous zirconia has been subjected to extensive tests over the past several years with such excellent results that it is becoming recognized as the "new approach" to the prevention and treatment of poisonous plant dermatitis. Controlled tests indicate this product alters and shortens the duration of dermatitis. Also, early application prevents the development of dermatitis. There is no evidence of topical or systemic toxicity.

LIGHTWEIGHT HAND TRUCK

(Use Key # 605 on Inquiry Card on page 75)

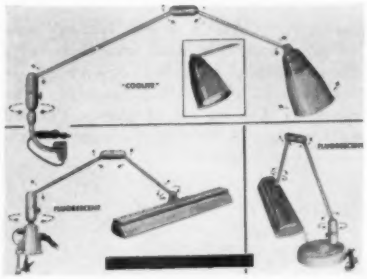
NEWEST addition to the lightweight line of magnesium hand trucks manufactured by Magline Inc., is this recently announced Model No. 12-H-802. According to the company, it is rated to handle loads of up to 450 pounds safely and easily, yet weighs only 16 pounds when equipped with rubber-tired magnesium wheels; 20 pounds when equipped with standard semi-pneumatic tires as shown.

Fabricated completely of magnesium, the unit is mechanically assembled from standard Magliner component parts, with no welding whatever employed. In service, any part can be easily replaced from standard factory stocks, thereby eliminating maintenance expense, and greatly extending the useful service life of the truck. The new truck incorporates a shovel-type nose unit, 12" long, and is specifically designed for facility in moving bulky packages and cartons, and loads of irregular shape or size.

ADJUSTABLE LIGHTING UNITS

(Use Key # 606 on Inquiry Card on page 75)

DEXTRA-LITES, a new line of 17 universally adjustable incandescent and fluorescent lighting units designed for industrial and commercial applications, have recently been introduced by the Swivelier Co., Inc.



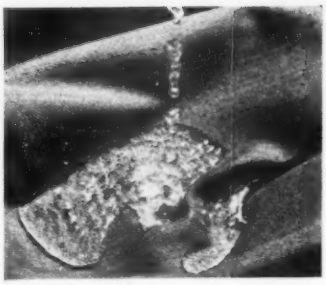
Among the new features is the new Coolite shade, available in four models. This is an incandescent metal shade which remains comfortable to the touch even after long hours of use with a 100-watt lamp. The manufacturer claims that the new shades help eliminate burns resulting from contact with hot shades on incandescent lighting units. They can be used on machine tools, work benches, inspection tables, desks, drafting boards, business machines; in fact, wherever people must work in close proximity to the source of light. Another feature is turn tension control which enables the user to "dial" the exact degree of rotating tension needed and holds the unit in desired position when the mounting surface is at an angle.

In addition to incandescent units, the "DEXTRA-LITE" line also includes Fluorescent units with Clamp-on and "C"-bracket bases and a Fluorescent Desk model. All units are made with Swivelier's patented spring-tension Socket and Swivels, which afford maximum adjustability, withstand heavy vibrations and "stay put . . . at any angle!".

CHEMICAL-RESISTANT CLOTHING

(Use Key # 607 on Inquiry Card on page 75)

RESULTS of chemical-spray tests on their new splash-resistant industrial clothing are announced by Chem-Wear, Inc. Using a 25% solution of sulphuric acid in a standard spray test, an independent laboratory rated Chem-Wear's Dynel fabric at 70. The report went on to say, "Partial wetting of the whole upper surface, no penetration to the inner surface of the fabric."



The company points to this new treatment as a great step toward worker-safety. Chem-Wear garments are not, they say, meant to be 100% impervious safety clothing, but do give a high degree of protection against splashing chemicals, and at the same time keep men quite comfortable. The protective treatment does not harm the porosity, or "breathing" ability of the clothing. Not a single case of dermatitis was reported in a field test involving 2,000 men over an 18-month period. The manufacturer claims that, while Dynel fabric, because of its chemical resistance, is suitable for men who work with acids and caustics, its ability to stand hard wear makes it economical under any circumstances.

PORTABLE SCAFFOLD UNIT

(Use Key # 608 on Inquiry Card on page 75)

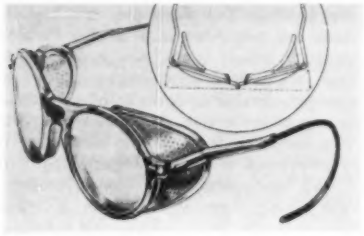
A NEW, all-steel, portable scaffold unit, called the Handyman, designed to roll through doorways and give access to hard-to-reach places, has been introduced by Bil-Jax, Inc. The single unit, as shown, requires only nine simple parts, including the expanded metal platform. If planking is desired in place of the metal platform, the latter can be replaced with conventional braces. The planking then can be placed crosswise on the braces, or lengthwise on the ladder rungs. The end ladder sections are available in 3, 4, 5 and 6 ft. heights. Where platform heights of less than 3 feet are desired, casters may be inserted into the metal platform sockets, eliminating need for ladder sections. Multiple units of the "Handyman," 2, 3, 4 or more sections high, singly or in tandem, make possible a great variety of set-ups.

HINGED-BRIDGE SPECTACLES

(Use Key # 609 on Inquiry Card on page 75)

AN entirely new concept in eye protection has been announced by Willson Products, Inc. The unique hinged bridge of the Willson Contour-Spec is the outstanding feature that sets this goggle apart from standard safety spectacles. With this feature, one size fits all faces... broad or narrow, long or short . . . with complete comfort.

In addition to the complete all-around protection provided, Contour-Specs offer a solution to the problem of keeping a sufficient stock of eye-sizes and bridge widths. The seven-barrel hinge of rust and corrosion resistant nickel silver permits automatic adjustment for any bridge width from 18 to 26 mm. Plastic strips for attaching side shields are molded as an integral part of the frame. This serves the double purpose of adding strength to the frame and providing full protective closure around the eye cavity. Side shields are available with or without perforations.



SAFETY SHOES

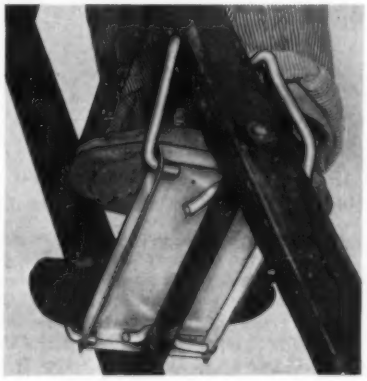
(Use Key # 610 on Inquiry Card on page 75)

THE Graton & Knight Co. has introduced a new line of safety shoes including dress oxfords, moccasins, 6 and 8 inch high work shoes, and foundry shoes. All shoes have the well-known safety steel box toe to protect the toe area from impact and crushing hazards, arch supporting steel shanks, Goodyear welt construction and full one-piece leather counters. Depending on the specific job for which the shoes are required, they may have an oil and heat resistant sole, a leather undersole, a leather midsole, a rubber carbon outsole or a Neoprene outsole. The new line includes styles suitable for workers in machine shops, foundries, lumbering and other outdoor occupations, transportation, etc.

CELLULOSE SPONGE MOPS

(Use Key # 611 on Inquiry Card on page 75)

FOR floor maintenance, waxing, and wall washing, the Hancock Corp. has introduced a new line of large cellulose sponge mops. Known as Speedway Moppers, they are available in 3 different sizes for light and heavy-duty operations. Self-folding action helps clean the sponge, and the mops may have automatic or handle squeeze. Chrome plated finish resists rust. The replaceable cellulose sponge is efficient in its cleaning operation, long wearing and is easy to keep sanitary. Although these commercial and industrial mops are of a large size, the folding feature permits use with ordinary sized buckets.



ALUMINUM STEP FOR LADDERS

(Use Key # 612 on Inquiry Card on page 75)

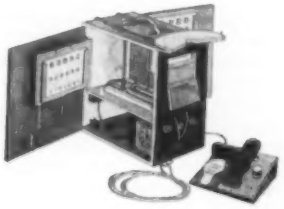
A NEW auxiliary ladder step, which is reported to lessen fatigue and greatly increase working comfort, has been introduced by Safway Metal Products Co. Called Eze-Tred, the new ladder step is constructed entirely of aluminum, and automatically adjusts to ladder size without the use of nuts, bolts, or other fastenings. It fits all standard wood ladders. The company states that the cantilever design of the Eze-Tred step increases grip as the load increases, thus providing a safe, comfortable working platform. The step is quickly and easily moved from rung to rung, as required.

CONDUIT FITTINGS FOR HAZARDOUS LOCATIONS

(Use Key # 613 on Inquiry Card on page 75)

THE Hazardous Area Equipment Corp. announces a series of conduit fittings for use in Class I, Groups A, B, C and D, and Class II, Groups E, F and G hazardous locations as defined in the National Electric Code. Known as Haeco fittings, they are designed primarily for use in the most hazardous locations, such as atmospheres containing acetylene and hydrogen, but meet the requirements for all other hazardous locations as well.

The fittings are made of aluminum alloy which is corrosion-resistant and weatherproof. The use of these fittings permits the design of a conduit system for any type of hazardous area. If the classification of an area should change, it is not necessary to install a new system, since these fittings are approved for all classes of areas. Suitable for permanent conduit systems in all hazardous areas, or areas which in the future may become hazardous.



DRIVER TESTING EQUIPMENT

(Use Key # 614 on Inquiry Card on page 75)

THE PORTO-CLINIC® is one of several devices manufactured by Porto-Clinic Instruments, Inc., for testing and training both in-plant and over-the-road vehicle drivers. The unit tests for: Visual Acuity, Color Perception, Depth Perception (distance judgment), Field of Vision (extent of side vision) and Reaction Time (eye-foot coordination). It has also been adapted for eye-hand coordination in the case of drivers of electric powered vehicles. The value of this type of testing was recognized by over-the-road operators. However, its importance and value for in-plant accident prevention has now gained widespread recognition.

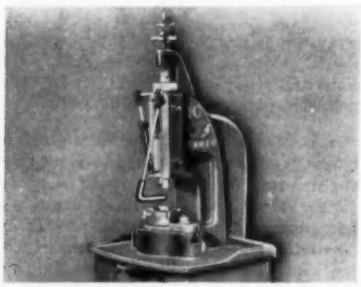
The device is currently being used by major companies for testing in-plant vehicle drivers; it has been found that due to the closeness of working areas, the operation of in-plant vehicles usually necessitates more finite judgments of distance and space, quicker reaction time and wider extent of side vision. By testing drivers and making them aware of their particular limitations, safer operation and improved performance can be effected. Detailed information regarding this and other related equipment is available upon request.

AUTOMATIC PARTS WASHER

(Use Key # 615 on Inquiry Card on page 75)

A COMPACT, portable air powered parts washer provides a new, safe method for the speedy, economical cleaning of small parts, pieces and sub-assemblies. It consists of a leak-proof, electrically seam-welded safety container with a fusible link in the cover and contains a perforated metal basket for the parts. The cleaning solvent is placed in the container and the basket holding the parts is moved up and down through the solvent by a reciprocating air motor which operates on a compressed air supply to avoid the possibility of igniting flammable vapors by sparks from electrically powered equipment. The movement of the basket through the solvent reduces to a minimum the release of flammable vapors.

The washer is compact, easily moved and may be set beside production machines where it is convenient to the operator and is always ready for quick, effective washing. It is absolutely safe: the fusible link has a low melting point and automatically closes the cover to smother fire. The air motor may be regulated to move the basket in the cleaning liquid from 75 to 125 cycles a minute by a simple setting of the control valve. The washer will operate satisfactorily at air pressures between 25 lbs. and 100 lbs. per square inch. Manufactured by The Protectoseal Co.



POWER PRESS GUARD

(Use Key # 616 on Inquiry Card on page 75)

THE Searjeant Metal Products, Inc., announces a new small power and kick press guard. Its operating principle is based on the sweep action of an adjustable guard arm which works with the downward motion of the ram. While the press is not in operation the guard arm remains entirely out of the operator's way at the extreme left or right hand side of the press (whichever is preferred). As soon as the pedal is pushed to operate the press, the guard arm sweeps completely beyond the press feed area on half the downward stroke. Thus, operator's hands or fingers are brushed aside before the dies close. The offset guard arm is designed so that it can sweep between the upper and lower dies driving the operator's hand or fingers from the danger point before the dies have closed.

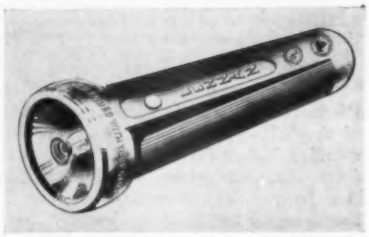
The installation is very simple, necessitating the drilling and tapping of only one hole in the bottom of the ram while the existing top side gib adjusting screw is, in most cases, used to install the steel guard head mounting bracket. All working parts of each guard are hardened for years of satisfactory service.

FOLDING TRUCK STEP

(Use Key # 617 on Inquiry Card on page 75)

A NEW device has been developed, and is now available from the E. D. Bullard Co. to reduce the hazards of climbing in and out of truck bodies. Called the Tacco Truck Stair, it prevents injuries and cargo damage because it permits the driver to walk up and down stairs from the body instead of climbing or jumping. It reduces torn clothing, fatigue, strained backs, sprained ankles, hernias and other injuries.

For better traction when carrying packages, the step extends back from the truck body. However, it cannot be broken off or damaged if the truck is backed into a loading dock or wall because the patented stair is self-retracting and will fold back automatically upon contact. To unlock the stair for use, it is necessary only to trip the tempered spring steel snap latch, pull out the stair, and it drops in place. The all-welded Tacco Truck Stair is attached to the truck bed or cross frames by four bolts, or it may be welded in place if desired. Non-skid treads keep feet from slipping, and its extended angle permits its use when hands are busy with packages.

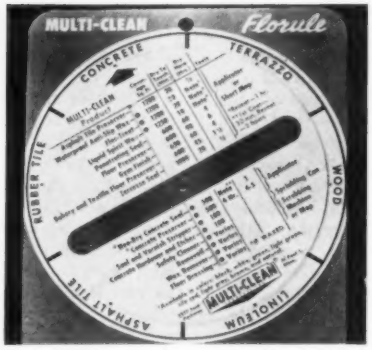


FLASHLIGHT FOR HAZARDOUS LOCATIONS

(Use Key # 618 on Inquiry Card on page 75)

AN EXPLOSION proof, water, vapor and damage proof flashlight has been introduced by Lennan Products, Inc. In the Lennan K-2 flashlight, all working parts are contained in a unique "sealed-in-head" which "pops" in or out of the case whenever batteries or bulbs are changed. Sealed in and air tight, batteries give greater service and have longer life. The specially designed one-button switch is guaranteed to work under all conditions.

The unbreakable, resilient Neoprene case resists deterioration from oil, gasoline, solvents, acids, alkali, salt solutions, sunlight and weather conditions. The case is streamlined for easy carrying and features a rib design which assures a safe positive hand grip. The unit operates on a two-cell torch with a three-cell flashlight "kick." Since there are no exposed metal parts, it is said to be safe around high power lines and electrical equipment. Approved for use by the USAAF Approval Laboratories, Canadian Standards Association, Department of Interior Bureau of Mines and the Underwriters' Laboratories, Inc.



FLOOR MATERIALS SELECTOR

(Use Key # 619 on Inquiry Card on page 75)

THE Multi-Clean Florule, a 4x6-inch cardboard device, provides a ready reference of valuable information on how to treat various types of floors.

Developed and copyrighted by Multi-Clean Products, Inc., the device features a rotating dial, which, when pointed to the name of a type of floor, immediately discloses through a slot in the dial, the proper floor materials to use, coverage in square feet per gallon for each, drying times, and method of application. On the reverse side of the Florule is a complete catalog description of the company's floor treating chemicals together with packaging information. Available free.

FREE BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE & PRODUCTION. To obtain copies write in the key numbers on the free-postage card below.

MEDICAL

Burn Medication 391
Carbisulphoil Co. Antiseptic-analgesic dressing subject of brochure. Effectiveness in relieving pain and minimizing infection in the local treatment of burns, traumatic wounds, infected wounds and lacerations noted. Used in liquid or ointment form, for sunburns, burns by flame, electricity, hot metal, cresote, cement, chemicals, X-ray and frostbite.

Drinking Water Service 392
U. S. Envelope Co. Brochure contains detailed information on drinking water service including paper cups, cup dispensers and portable water tanks. Desirability of disposable paper cups from health standpoint pointed out. Various means of bringing fresh water and cups to outdoor workers shown. Line includes drinking cups with imprinted safety messages.

Impregnated Salt Tablets 393
U. S. Safety Service Co. Bulletin outlines the need and use of salt tablets to combat heat fatigue. Tablets are impregnated to make them dissolve slowly to avoid nausea. Available with disposable dispensers, and a steel, wall-mounted dispenser holder to make dispensers weatherproof. Formula for producing tablets meets government specifications.

PERSONAL PROTECTION

Sweat Band 394
American Allsafe Co., Inc. Cellulose sponge sweat band described in folder. Increase in production and safety indicated due to elimination of work stoppages caused by perspiration dripping into a worker's eyes and temporarily blinding him. Sponge is reenforced, and band includes a free-floating, self-adjusting, all rubber head band.

Eye and Head Protection 395
Dockson Corp. 48-page, liberally illustrated catalog shows line of goggles, lenses, helmets, face shields, and respirators. Contains specifications of equipment, including the meeting of Federal Standards, and a table to facilitate selection of right type of equipment for particular hazards. Component parts pictured and described.

Work Gloves 396
Edmont Mfg. Co. Line of coated fabric work gloves pictured in 15-page catalog. Gloves coated with neoprene, natural rubber, vinyl plastic and impregnated vinyl plastic. Resistance to liquids noted, and chart included showing a performance and chemical resistance record of the various coatings. Job studies or plant surveys offered.

Rubber Knee Boots 397
Scientific Industrial Supply Co. Diagram of heavy duty rubber knee boot featured in bulletin. With or without steel toe, boot has a sponge insole and a flexible steel sole for resistance to puncture. Black or white models in various sizes available.

MATERIALS HANDLING EQUIPMENT

Power Trucks 398
Towmotor Corp. Attractive booklet shows how powered fork-lift trucks can increase production efficiency and safety by correcting improper loading, improper lifting, improper unloading, improper in-plant movement of materials and improper storage. Examples of use of equipment to meet particular problems cited.

Sling Chains 399
American Chain & Cable Co. Line of sling chains and accessories described in 31 page catalog. Specifications listed, and care and inspection of sling chains included. Also shown are hooks, links, magnet chains and rings.

ATMOSPHERE CONTROL

Heat Pump 400
Westinghouse Electric Corp. 21-page bulletin gives complete information including construction, explanation of operation, diagrams and typical installations of heat pump. Unit is self-contained and utilizes a hermetic compressor which without water or flame provides warm air in the winter and cool air in the summer.

Ventilators and Fans 401
Coppus Engineering Corp. Ventilators, blowers, exhausters, of the axial flow and centrifugal types, and fans are pictured and described in 20-page catalog. Suggested applications given for each product and diagrams giving dimensions and specifications included.

HIGHWAY & TRANSPORT

Highway Safety 402
Justrite Mfg. Co. Reprint of an article concerning driving safety and emergencies offered. Gives several examples of how accidents have been caused and cites 15 points to remember when driving on highway. Back page contains information on an emergency flashing light for use when emergency repairs are necessary. Also flashlights for night use.

Concrete Coating 403
A. C. Horn Co., Inc. Brochure shows the use of a coating for darkening air entrained concrete and reducing glare. Complete data and examples of uses given, such as on highways, sidewalks, intra-plant roads, etc. Coating does not affect the air entraining agents in the concrete.

BUILDING MAINTENANCE

Cleaner-Disinfectant 404
Fuld Bros., Inc. Floor cleaner that cleans, disinfects and deodorizes in one operation subject of brochure. Using question and answer style, detailed information is given. Product can be used on all types of floors.

Ladders & Shoes 405
Dayton Safety Ladder Co. Line of steel-reenforced wood ladders shown in bulletin. Platform ladders, rolling ladders, step platforms, shelf ladders included. Specifications given and all ladders equipped with safety ladder shoes. Shoes, also available separately, are pictured and described.

Swing Stage 406
Albina Engine & Machine Works. Folder about scaffolding and rigging equipment,

(Continued on next page)

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operated either by air or electric power. Includes swing stages, stirrups, transfer chains, I-beam rollers, and scaffold accessories. Has automatic braking system, guard rail holders, and safety cut-out switch.

Steel Flooring 407
Inland Steel Co. 10-page pamphlet discusses a rolled steel flooring with a raised lug pattern to provide traction for wheels and feet. Specifications given and examples of use shown; such as, industrial flooring, loading ramps, machinery platforms, steps, running boards, truck beds, etc.

Monolithic Flooring 408
Hubbellite Corp. Brochure shows uses of oxycloride cement flooring for such installations as operating rooms, locker rooms, food processing areas, ordnance plants, paint spray rooms, and grease and oil spillage areas. Flooring is static draining, non-sparking, resistant to oil and grease, and repellent to insects, bacteria, and mould growth. Specifications and installation instructions given.

FIRE PROTECTION

Weed Killer 409
E. I. DuPont de Nemours & Co., Inc. Examples of effectiveness of weed killer cited in 10-page pamphlet. Chemical is non-flammable, non-volatile, non-corrosive and low in toxicity to humans and animals. Instructions for use given and phases of application where care is necessary pointed out.

Wheeled CO_2 Extinguisher 410
American-La France-Foamite Corp. 50-lb. wheeled CO_2 extinguisher for Class B & C fires too large to be extinguished by hand units pictured in bulletin. Discharge horn is equipped with anti-static device for safety in combating electrical fires. Inspected and approved by Underwriter's Laboratories.

Conductivity Tester 411
Associated Research, Inc. Brochure gives uses of conductivity tester for personnel and equipment in operating rooms, ordnance plants, chemical plants, paint factories, refineries, and other locations where static electricity is a hazard. Approved by National Fire Protection Association.

MISCELLANEOUS

Sirens & Lights 412
Federal Enterprises, Inc. Folder features a line of sirens and lights for emergency vehicles. Sirens available with rotating or flashing light for visual warning as well as audible. Emergency lights also include flashing and rotating beams, and double beams for mounting on vehicles. Specifications listed on all products.

Stud Driver 413
Remington Arms Co., Inc. Pamphlet gives detailed information concerning cartridge-operated stud driver. Types of studs and accessories also shown. Specific uses listed and described. Has various safety guards and is approved by Underwriter's Laboratories and New York State Code.

Bulletin Board 414
A. C. Davenport & Son, Inc. Bulletin shows cork back bulletin board with or without changeable letter insert for industrial use. Dimensions listed. Available in metal or wood and in various colors.

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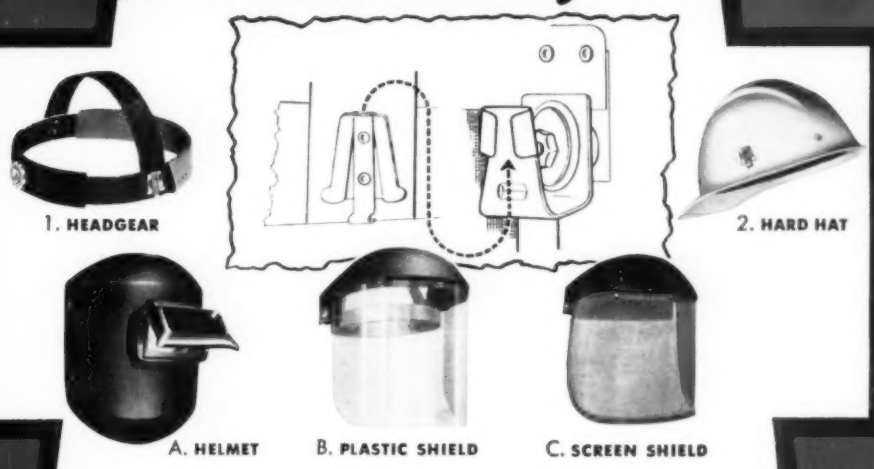

Assemble Your Own Combinations

Here's a way for you to save money on head, face, and eye protection equipment. Now you don't have to buy duplicate headgears or hats. If you need a helmet (A) and face shield (B), buy them along with only one headgear (1) or hard hat (2).

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The New CESCO Mounting has an easily adjusted tension spring to compensate for weight differences. Tilting mechanism permits easy raising and lowering. Wedge shaped brackets slide apart or together quickly, and lock securely.

Save buying extra parts... save money.
On your next order specify CESCO interchangeable helmets and face shields. They're—
"Right... before your Eyes."

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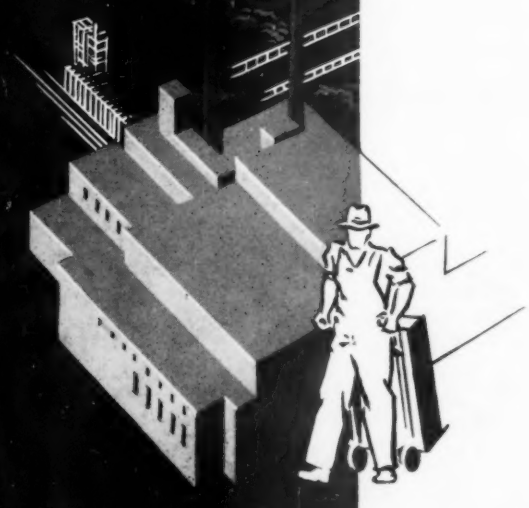
Neglect may cause infection, which can be prevented by prompt use of Mercurochrome.

No antiseptic has been proved to be more effective than Mercurochrome.

Thirty-four years of extensive clinical and lay use has proved the value of this popular antiseptic.



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Thantis Lozenges relieve pain promptly—reduce infection—act prophylactically.

Sore throats due to coughs and colds, if neglected, may result in lost man hours of work.

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